

Youth transport, mobility and security in sub-Saharan Africa: the gendered journey to school

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Introduction

This paper examines the gendered journey to school in sub-Saharan Africa. Gender differences in school enrolment and attendance in Africa are well established: education statistics in many countries indicate that girls' participation in formal education is often substantially lower than boys', especially at secondary school level. Transport and mobility issues commonly form an important component of this story, though the precise patterning of the transportation and mobility constraints experienced by girl schoolchildren, and the ways in which transport factors interact with other constraints, varies from region to region. On the basis of a large set of empirical data we have gathered in a research project on children's mobility in Ghana, Malawi and South Africa, our aim in the paper is to explore the diversity of gendered travel experiences across geographical locations, paying attention to associated patterns of transport provision. Our research covers 24 urban and rural sites across Africa. Issues of security form a key theme in some of the locations where we collected data, especially where girls are concerned: they may face a very real threat of rape. In other cases girls' journeys to school and school attendance are hampered by Africa's transport gap and cultural

conventions which require females to take on this burden (by pedestrian head loading) and other work before leaving for (or instead of attending) school. There is insufficient room in this paper to examine in depth the role that girls' household duties associated with Africa's transport gap plays in shaping gendered patterns of travel to school, but it is important to note its presence and contextual significance for the daily travel patterns described below.

Following a short review of background literature and methods we present and comment on the comparative survey data for the locations in which we worked. We examine the implications of our findings for gendered patterns of access to education, and suggest areas where policy intervention could be beneficial.

Background

Primary education enrolment figures have been boosted substantially across sub-Saharan Africa by the emphasis on 'free' universal primary education in the Millennium Development Goals [MDGs] but attendance figures often remain substantially below enrolment. Children's time spent at school has to be balanced against the opportunity costs of its

alternative use in contribution to household production and reproduction. Additionally, although fees have been abolished, parents are still expected to fund other items such as uniform, books, furniture, Parent Teacher Association etc. Other potential constraints include poor school quality and lack of access to credit, though these vary in importance between urban and rural areas (Ersado 2005). The significance of the time, effort and/or costs of transport incurred in getting to school has been little considered in the literature.

Once children have completed primary school or junior secondary school [where this latter middle stage occurs], a move to [senior] secondary education may be contemplated but is often not achieved. The barriers to enrolment are more substantial at this level since fees are imposed. Additionally, secondary schools are fewer in number than primaries and tend to be located in major service centres (Porter 2007). Consequently, in addition to fees and related school-based costs (uniform, books, PTA etc), there are likely to be substantial travel costs, a very long daily walk or costs of accommodation at or close to the school. In remoter rural areas even primary school enrolment and attendance may be affected by travel distance, since schools cannot normally be provided in every settlement, but at secondary level the barriers imposed by distance are usually much increased.

Studies directly concerned with travel to school in Africa are rare, especially outside of South Africa. Early work in Uganda (Gould 1973) showed how poor transport services forced most children to

walk to primary school; secondary school children usually had to live away from home due to the distances involved. This situation is still common across Africa. In Ghana, Avotri et al. (1999) found that the closer the secondary school, the more likely it is that children will be sent to primary school, because continuity of the child's education is feasible. Their work also shows (pp. 94-5, 165) how long walks to school due to lack of or high cost of transport and associated lateness problems encourage late 'over-age' enrolment (especially of girls), truancy and early drop out. In South Africa, a number of studies indicate the scale of the travel to school problem. A 1998 survey of rural KwaZulu Natal schools found that 75% of secondary school walkers walked over 3 kms to school, while 43% of primary school walkers walked over 3kms: at least 280,000 children in this region walked for over 1 hour, one way to school. An associated survey of school principals found 60% of pupils were often late, 58% sometimes absent and 70% of pupils were often tired at school, due to long walking distances to reach school each day (Mahapa 2003). The 2003 South Africa National Household Travel Survey adds further support to this picture: seventy-six percent of 'learners' were reported to walk to their educational destination and almost 3 million out of the 16 million total (especially those located in more rural provinces) spent more than an hour a day walking to and from educational institutions (RSA Department of Transport 2005). Long journeys to school, when coupled with required contributions to household labour demands, are likely to impact strongly on

attendance. However, Filmer (2007) suggests from his analysis of data for rural areas of 21 poor countries (including some of the poorest in Africa) that simply building schools will not bring large increases in school participation rates: a combination of interventions may often be essential to improved participation.

Children's school attendance and performance is further impeded by the widespread household transport gap, notably lack of piped water and electricity for cooking. Girls, in particular, are often required to carry water, wood fuel and other loads, as well as performing their other household duties, both before and after school. This delays the time when they leave home in the morning and not only increasing the likelihood of late arrival at school (with consequent punishment from their teachers), but also leaving them exhausted during lesson time. Poor roads, unreliable, costly or non-existent transport services may add further to their problems on the journey to school.

In some countries the school transport situation is further complicated by the substantial expansion of private education. Perceived deficiencies in the quality of education provided in state schools may persuade even relatively poor families to send their children to a more distant private school rather than the local state school. As Lewin and Sayed (2005) observe, the limited availability of places at state secondary schools for the growing numbers of children graduating from the free primary education promoted by the MDG

priorities may also be encouraging this trend.

Since girls' school enrolment rates are considerably lower than boys' across much of sub-Saharan Africa, transport impacts on girls' education are of particular interest. Low enrolment and attendance among girls are in part related to their particularly heavy household duties, but also associated with cultural perceptions regarding the (limited) value of girls' education, and perceived dangers for girls who have to travel a long distance to school or board away from home. A study in Niger using DHS surveys indicates that there are only 41 girls per 100 boys at school in rural areas, compared to 80:100 in town and that distance of home from school is a key factor (UK Department for International Development 2001:7). Improvements to road access and transport availability can probably make a significant impact on girls' attendance in some contexts, as research in Morocco indicates (Khandker et al. 1994, Levy and Voyadzis 1996, cited by African Union et al. 2005).

Methodology

This paper draws on a survey of approximately 1,000 children aged 7-18 in each of our research countries [n=2967]. In the discussion, we compare statistics from the quantitative survey for four locational types in each country:

1. Remote rural with no school and few, if any, basic services. Poor access along unpaved road with very limited or no transport services (RR in the tables which follow).

2. Rural with services i.e. with at least a primary school and some kind of health service, if only as an occasional visiting facility. Poor access along unpaved road with some (fairly limited) transport services (RS)
3. Peri-urban or small town within daily reach of an urban centre, with some residents travelling daily into the urban centre (PU)
4. Poor, high density urban neighbourhoods (U).

Each category includes two sites per country from different agro-ecological zones.

A random sample of approximately 125 children per settlement was obtained [see www.dur.ac.uk/child.mobility for details]. The parent/carer was asked to give some basic information about the selected child. The subsequent interview with the child was conducted wherever possible out of hearing (though within sight) of the parent and other family members. The survey was preceded and accompanied by substantial qualitative research not only by academic researchers but also by 70 child researchers who interviewed their peers, made photo diaries, etc. The child and adult qualitative research has played a crucial role in shaping the survey design,

specific questions and our interpretation of findings.

Findings

1. Gender and schooling

The vast majority of the children and young people we interviewed in our survey were enrolled in school, which suggests an encouraging trend, probably at least in part a reflection of efforts associated with the MDGs. Gender patterns of enrolment were as one might expect for Ghana [82.4% of girls enrolled, compared to 92.6% of boys across the full country sample of children] and South Africa [90.3% of girls compared to 95.4% of boys], but in Malawi, where overall enrolment figures in rural areas are lower than in Ghana and South Africa, we found a smaller proportion of boys enrolled than girls among our total Malawi sample [82.2 % girls compared to 74.2% of boys]. However, it is probably more useful to focus on enrolment of children between the ages of 9 and 15 years, rather than our total sample when looking at enrolment statistics, since it is common for younger children to be enrolled fairly late, especially in remoter areas, while children over 15 are beyond the age of compulsory education. A breakdown of this data for 9-15 year olds, by settlement type, provides useful detail:

Percentage of children aged between 9 and 15 years (inclusive) enrolled in school
[n=2180]

	South Africa	Ghana	Malawi
RR	F=96.3% M=98.7	F=88.9% M=90.7	F=75.8%* M=58.5
RS	F=98.9 M=98.7	F=90.4 M=95.8	F=76.9 M=87.6
PU	F=98.8 M=100.0	F=89.5* M=97.1	F=90.8 M=89.2
U	F=95.0 M=98.2	F=94.9 M=93.3	F=96.6 M=93.3

* P (Chi-square)= <0.05 F=female M=male

Overall, it would appear that enrolment is directly linked to settlement accessibility only in Malawi, where both for girls and for boys there is a clear pattern of increased enrolment from remote rural to urban settlement types. The significantly higher figures for girls than for boys in Malawi Remote Rural settlements can be related to the fact that some boys are involved in herding, charcoal burning and other livelihood activities in remoter rural areas. In rural Ghana and South Africa, enrolment figures are substantially higher than in Malawi. Overall, in both these countries there is less distinction in accessibility terms than in Malawi. In Ghana girls' enrolment is significantly lower than boys in the peri-urban locations surveyed, perhaps because this is the settlement type where girls contribution to retail and other work for households engaged in a nearby urban economy is highest.

School attendance figures are actually much more important than enrolment figures in terms of children's access to education: we encountered very many

children who are enrolled but spend many days out of school. Unfortunately, we are not able to satisfactorily compare attendance data for the last week across all 3 countries because in some locations, particularly in South Africa and Malawi, the survey had to be conducted during the school holidays.

2. *Travel to and from school*

Travel patterns to and from school by gender: attending the nearest school

In all the following discussion we focus on all children in the survey who travel to school (i.e. not only those between 9 and 15 years). The vast majority (95% or over) of both boy and girls children interviewed in our survey travel daily to school in all three countries. The majority interviewed also attend the school (relevant to their educational level) closest to home, but there are important distinctions according to location in Ghana and Malawi where both boys and girls were particularly likely to attend the closest school in rural settlements with services [RS]. This is because such settlements all have at least primary and

usually also JSS provision, and are sufficiently far from other centres to disincline parents from choosing to send their children to a school elsewhere, since this is likely to involve substantial travel costs. The picture is less clear in South Africa. In all three countries, but especially Ghana, urban children are less likely than others to attend the nearest school: there are opportunities to select other schools which, although not the nearest for their particular level, are clearly within reasonable travel distance, and can usually be reached on foot. They are selected for a variety of reasons including factors such as family members having attended the school, religion, proximity to the family business, or government allocation (in the case of secondary school). Urban figures regarding attendance at the nearest school are highest in Malawi, presumably because this is the poorest, least developed of the three countries, and

thus pressures to educate as close to home as possible and at minimum cost are highest, even in urban areas.

Gender distinctions in each country regarding attendance at school closest to home are relatively small in urban areas [U] and rural areas with services [RS] (where schools will be close), but in remote rural areas [RR] in Ghana and particularly in Malawi, a considerably higher proportion of girls than boys attend the closest school. This presumably reflects poverty levels in remote areas, girls' workloads and concerns about girls' safety during the journey to school, an issue to which we will return later. In South Africa, although there are serious safety concerns regarding girls' travel to school, there is relatively more availability of scholar transport in remote rural areas (see below).

Percentage of children attending the school closest to home (all children 9-18 currently attending school, n= 2528)

	South Africa n=879	Ghana n=865	Malawi N=784
RR n=569	F=88.7% M=90.9	F= 90.7% M=86.7	F=92.0%* M=80.9
RS n=650	F=91.1 M=89.8	F=97.3 M=97.4	F=98.9 M=98.1
PU n=629	F=92.8 M=87.8	F=95.2 M=90.6	F=95.9 M=86.9
U n=680	F=66.2 M=67.9	F=56.6 M=59.1	F=72.3 M=70.7

F=female M=male

* P (Chi-square)= <0.05

Daily travel times

Children were asked to estimate the time it took to travel to school on the most recent school day. In Ghana as a whole, just over half all girl children who responded to this question [n=1998] estimated they reached school in 15 minutes or less [50.6%]. Figures for girls in Malawi and South Africa were lower [34.3% and 28.3% respectively]. Corresponding percentages for boys were somewhat lower than for girls in Ghana [44.6%] but very similar in Malawi and South Africa [35.3%, 28.5% respectively]. Turning to longer journeys, in all three countries roughly 20% of boys and girls estimated their journey at between 46 and 90 minutes. Journeys over 90 minutes were few in Ghana and Malawi [under 3% of girls and boys in Ghana, under 5% in Malawi], but reported by 7.8% girls and 8.4% boys in South Africa.

significantly to the broad picture. As one would expect, our survey data for estimated daily travel time to school in Malawi shows the longest journeys in remote rural areas, where a majority of children, both boys and girls, estimate that their journey takes over three-quarters of an hour. By contrast, journeys in rural centres with services tend to be the shortest; not surprising given that this is the settlement type in which the most children are likely to attend the nearest school. Journey time is more varied in both urban and peri-urban locations, reflecting proximity to schools in urban areas, but also the tendency to attend a school other than the closest, especially in urban locations. Differences in gendered patterns are relatively small, though more boys (especially in remote rural Malawi) travel distances requiring long journeys (over one and a half hours) compared to girls.

A review of differences across different settlement types in each country adds

Estimated daily travel time to school on most recent school day: Malawi

	Under 15mins	16-45 mins	46mins -1hr 30mins	1 hr 31 mins - 2 hours 30 mins	Over 2 hours 30 mins
RR	F=8.8% M=5.4	F=17.6% M=19.6	F=63.2% M=57.1	F=10.3% M=17.9	F=0% M=0
RS	F=67.7 M=59.8	F=29.0 M=36.6	F=1.6 M=1.2	F=1.6 M=1.2	F=0 M=1.2
PU	F=42.2 M=46.8	F=37.3 M=39.2	F=20.6 M=11.4	F=0 M=2.5	F=0 M=0
U	F=25.2 M=18.1	F=57.5 M=66.7	F=16.5 M=13.9	F=0.8 M=1.4	F=0 M=0

Daily travel times for South Africa are similar to Malawi in terms of distribution across geographical locational categories,

with the majority of the longer journeys in remote rural [RR] locations and the majority of short journeys in rural

settlements with services [RS]. Gender distinctions appear relatively small. The data accords with the 2003 South Africa National Household Travel Survey conclusion that 3 million out of the 16

million total learners (especially those located in more rural provinces) spent more than an hour a day walking to and from educational institutions (RSA Department of Transport 2003).

Estimated daily travel time to school on most recent school day: South Africa

	Under 15mins	16-45 mins	46 mins-1hr 30mins	1 hr 31 mins - 2 hours 30 mins	Over 2 hours 30 mins
RR	F=7.7% M=4.6	F=21.2% M=29.6	F=57.7% M=50.0	F=13.5% M=15.8	F=0% M=0
RS	F=60.4 M=53.3	F=28.8 M=33.7	F=8.8 M=9.0	F=2.1 M=3.1	F=3.1 M=1.7
PU	F=49.0 M=47.8	F=34.6 M=37.3	F=15.2 M=13.8	F=1.1 M=1.1	F=0 M=0
U	F=37.2 M=38.1	F=48.8 M=51.4	F=12.8 M=10.0	F=0.5 M=0	F=0.3 M=0

As we noted above, daily travel times for Ghana as a whole are relatively short, particularly when compared to South Africa. The strongest preponderance of short journey times in Ghana is in peri-urban sites, even more than in rural

settlements with services. This probably reflects the high density of schools in the peri-urban areas concerned, including private schools. No particular gender pattern is discernable.

Estimated daily travel time to school on most recent school day: Ghana

	Under 15mins	16-45 mins	46 mins-1hr 30mins	1 hr 31mins- 2 hours 30 mins	Over 2 hours 30 mins
RR	F=9.5% M=4.8	F=26.2% M=45.2	F=58.3% M=45.2	F=6.0% M=4.8	F=0% M=0
RS	F=62.8 M=49.1	F=17.7 M=27.2	F=16.8 M=18.4	F=2.7 M=5.3	F=0 M=0
PU	F=72.5 M=58.8	F=22.5 M=32.4	F=3.9 M=8.1	F=1.0 M=0.7	F=0 M=0
U	F=49.2 M=54.3	F= 40.6 M=35.9	F=9.4 M=9.8	F=0.8 M=0	F=0 M=0

Travel mode: travel to school

Walking is totally dominant as the mode of transport to school in all three countries, in all types of settlement and across both genders. In Ghana and

Malawi it is almost the exclusive mode of transport on journeys to school, in all settlement types. In Ghana 98.6% of

girls and 97.4% of boys had walked to 99.3% of girls and 99.1% of boys in Malawi. Bicycle use to school (either as cyclist or riding pillion) was reported by only one boy and not even one girl in the Malawi sample, and by three boys and just one girl in Ghana. This may seem surprisingly low, especially in view of the fact that when we asked about whether children's knew how to ride a bicycle, so many said they could (Ghana: 58% girls, 87% boys; Malawi: 44% girls, 72% boys; South Africa 48% girls, 82% boys). However, many children learn to ride a cycle through borrowing a family member's bicycle or by hiring a cycle for a few minutes at a time (called kobo-kobo in southern Ghana). If the family has a bicycle, it is unlikely to be available to be parked at school all day while the

school the previous school day, and child is in lessons. Fears regarding the vulnerability of bicycles to theft at school or on the journey to/from school were also expressed.

Motorised transport use was similarly remarkably low: in Ghana three girls and three boys had travelled to school by motor taxi, while in Malawi only one boy and two girls had taken a bus/minibus to school the previous school day. The Ghana data accords closely with earlier findings in Ghana's coastal region (Porter and Blaufuss 2003). In South Africa the travel to school picture is a little more varied, however, and worth examining in detail since we can compare our survey data with data from the national travel survey briefly reported above.

South Africa: Major modes of transport to school on most recent school day

	Walked only	Bus/minibus/combi/bakki	Bicycle
RR	F=84.7% M=82.8	F=15.3% M=15.5	F=0% M=0
RS	F=80.3 M=88.5	F=16.6 M=11.5	F=0 M=0
PU	F=93.2 M=88.5	F=1.7 M=3.8	F=1.7 M=0
U	F=87.4 M=85.7	F=7.4 M=10.2	F=0 M=0

Although walking dominates among both genders in South Africa (as in Ghana and Malawi), in remoter rural areas of South Africa, the availability of motorised transport services for part of the school journey has clearly proved advantageous for some children, both boys and girls. Cycle use is remarkably low, however. There have been sporadic efforts to expand the use of bicycles among school pupils in poorer areas of South Africa

under the Shova Kalula programme ((Mashiri et al, 2001; Mahapa 2003), but this has clearly had no influence in our study settlements. According to the 2003 South Africa National Household Travel Survey (as noted earlier), 76 % of 'learners' were reported to walk to their educational destination. This figure is still far exceeded in the (overwhelmingly poor) study areas where our project is focused.

3. Dangers faced on the journey to and from school

In our survey children were asked about problems faced on the journey to and from school. They were first asked to identify the principal danger (if any) they faced as they travelled to school. In South Africa the three principal dangers identified were as follows (in rank order) risk of attack from thieves/thugs (8.4%), rivers and streams to cross (8.2%), rough terrain travelling to school (5.1%). In Ghana snakes were ranked first by children as the biggest danger (14.3%), followed by rough terrain (5.1%) and dangerous taxis (4.9 %). In Malawi, rough terrain ranked first (5.2%) followed by crossing rivers and streams

(4.4%) and harassment or verbal abuse by drunkards (4.3%). In each country, a significant proportion of children said they did not experience any major dangers on the journey to and from school: 56.3% in Ghana, 57.9% in Malawi and 46.1% in South Africa. These figures accord with our qualitative data in that it also suggests that children in South Africa report facing greater dangers on their journey to school, by comparison with children in Malawi and Ghana, though as we show below, the degree to which children perceive themselves to face overall danger varies between rural and urban environments in all three countries, and to a smaller extent by gender.

Percentage of children who experience NO dangers on the journey to and from school

	South Africa	Ghana	Malawi
RR	F=20.6% M=24.4	F=31.2% M=43.8	F=41.9% M=44.9
RS	F=72.6 M=75.4	F=59.5 M=49.5	F=57.0 M=66.0
PU	F=39.5 M=38.1	F=62.0 M=58.0	F=52.6 M=56.1
U	F=44.3 M=47.8	F=70.3 M=64.2	F=67.9 M=69.7

The figures above indicate that the boy and girl children who feel safest as they travel to and from school in South Africa are those resident in rural locations with services, where girls feel almost as safe as boys. As we have shown above, these are the settlements in South Africa where children's travel time to school is shortest. In urban areas slightly more boys than girls feel safe, perhaps related

to girls' perceived (and actual) risk of rape in urban locations (see below). In Ghana the children who appear to feel safest as they travel to and from school are those resident in urban and peri-urban locations. A greater proportion of Ghanaian girls than boys feel safe in urban locations but a greater proportion of boys feel safe than girls in rural locations. In Malawi the urban children

reported the least dangers on the way to school, while those in remote rural communities experienced the most hazards; in all Malawi locations, a greater proportion of boys than girls feel safe.

The types of danger experienced also vary considerably between locational types and in some cases by gender. Our respondents were asked whether they were exposed to particular specific risks: rough terrain, streams which are difficult to cross, risk of attack from people, risk of harassment (verbal abuse), risk of rape, fear of animals, dangerous vehicles and supernatural risks. As might be anticipated, there is substantially less difference in gender perceptions of danger for some of these risks than for others.

Dangers associated with physical factors (topography and rivers)

Rough terrain, unsurprisingly is considered a more frequent hazard in remote rural than other locations across all three countries, with the highest perception of danger reported in remote rural South Africa. In one of the two remote rural South African settlements, in particular (in Eastern Cape), children

must cross a mountain even to reach primary school. Gender patterns for the high risk areas relating to rough terrain – remote rural sites- suggest a slightly greater proportion of boys perceive topography as an issue than girls in all three countries. This may be because for girls other dangers seem much more important and by contrast rough terrain is considered a less significant impediment to travel, or possibly because girls are used to rough terrain as they are exposed to it when undertaking tasks such as firewood collection. It is also likely to be related to the statistics [see above] indicating that in remote rural areas [RR] of Malawi and Ghana, a higher proportion of girls than boys attend the closest school. Boys from remote rural areas who are sent to more distant schools rather than the school closest to home are very likely to encounter additional hazards of rough terrain along their longer route. The significant difference between girls' and boys' perception of the terrain hazard in Malawi rural with services settlements [RS] will need further investigation, but may be related to boys' play or work diversions on the journey to school.

Percentage of children reporting rough terrain as a danger in journeys to/ from school

	South Africa	Ghana	Malawi
RR	F=22.7% M=26.4	F=13.1% M=16.7	F=20.9% M=21.7
RS	F=6.6 M=13.0	F=10.6 M=15.5	F=5.1* M=18.2
PU	F=11.7 M=13.0	F=13.7 M=13.2	F=7.9 M=11.0
U	F=3.6 M=4.2	F=5.4 M=3.3	F=1.4 M=5.3

* P (Chi-square)= <0.05

Stream or river crossing dangers present a similar pattern to rough terrain. In South African remote rural sites they present a major danger to many children. In Malawi remote rural sites they are also a considerable problem for some children, but in the Ghana sites, stream crossings mostly present a relatively insignificant issue for children on their way to and from school. However, the difference between girls and boys in Ghanaian rural with service settlements is significant and may reflect

some deviation from the most direct route to school by boys associated with play (as we suggested also in the case above re terrain and Malawi RS boys). The otherwise relatively low reportage of dangers associated with rough terrain and rivers in Ghana is not surprising given that the two Ghana project study regions, Cape Coast and Sunyani areas (and, indeed the country as a whole) have much less rugged topography than Malawi's Shire Highlands or South Africa's Eastern Cape study regions.

Percentage of children reporting crossing rivers or streams as a danger in journeys to/from school

	South Africa	Ghana	Malawi
RR	F=24.8% M=22.1	F=0.0% M=1.2	F=18.6% M=15.9
RS	F=3.5 M=6.5	F=3.5* M=10.3	F=2.6 M=3.0
PU	F=1.5 M=1.9	F=1.0 M=0	F=1.8 M=6.1
U	F=0.5 M=1.9	F=0.8 M=2.2	F=0.7 M=1.3

* P (Chi-square)= <0.05

Traffic hazards

Traffic on the journey to and from school mentioned by children as a danger included tipper trucks, taxis, minibuses/combis, even bicycles (the latter especially in Malawi). Children refer to traffic dangers more frequently in urban and peri-urban areas than in rural areas across all three countries, as might be expected, given associated traffic density patterns. In South Africa and Ghana, even children living in remote rural areas are likely to encounter traffic dangers on the journey to school because their schools are

located in centres where some vehicular traffic exists. Malawian rural children do not record motorised traffic as a danger, even in the two rural centres with services, because these centres are located off-road in a country where poverty is such that rural vehicular traffic is limited. Malawian figures for urban areas are also relatively low compared to Ghana and South Africa. So far as gender patterns are concerned, girls are significantly more aware of traffic dangers than boys in rural areas in Ghana, which accords with the fact that boys tend to have more traffic-related

accidents than girls [see Porter and Blaufuss 2003 re Ghana]. In urban areas, however, across all three countries, the data suggests that boys are slightly (South Africa) or considerably

more (Ghana and Malawi) aware of the traffic danger than girls. However, this does not appear to have translated into reduced traffic accident statistics for boys.

Percentage of children reporting dangerous vehicles as a hazard on journeys to/from school

	South Africa	Ghana	Malawi
RR	F=6.2% M=2.4	F=13.1%* M=2.4	F=0% M=0
RS	F=5.4 M=4.7	F=3.5 M=1.7	F=0 M=0
PU	F=20.9 M=21.6	F=16.7 M=22.8	F=20.2 M=13.4
U	F=20.9 M=23.6	F=22.5 M=32.6	F=11.3 M=18.4

* P (Chi-square)= <0.05

Animal hazards

Our child researchers first alerted us to the significance of animals and reptiles (biting dogs, snakes etc.) as a serious potential hazard for some children and we consequently incorporated questions about animals in the survey questionnaire. In the survey children included dogs, snakes, cattle, wild pigs, worms, lions, rats and donkeys among the 'animal' dangers they might encounter on the journey to and from school. While no child is likely in reality to meet a lion, the imagined prospect of

such a meeting can be a very significant issue (Porter et al. in press). The data below shows that animal-related dangers were reported particularly in remote rural areas in Ghana and South Africa: in Ghana, in particular, snakes were a major concern. Snakes were reported to be a particular problem for children passing through less habited areas, notably fields or uncleared bush areas on the way to school. The lower percentages for remote rural Malawi are more difficult to explain. There is no clear gender pattern in the data.

Percentage of children reporting dangerous animals as a hazard on journeys to and from school

	South Africa	Ghana	Malawi
RR	F=36.8% M=40.9	F=53.6% M=56.0	F=15.1% M=17.4
RS	F=22.7 M=26.3	F=27.7 M=37.9	F=22.8 M=22.0
PU	F=15.4 M=13.8	F=5.9 M=11.8	F=13.3 M=8.5
U	F=3.3 M=4.7	F=6.2 M=7.6	F=0.7 M=1.3

Attack from people, including rape, other forms of attack and verbal harassment

Hazards presented by people were recorded by many children on their journey to school. Among these 'people', children sometimes specified bandits, older boys, murderers, kidnappers, thieves, fighting with friends, men who chase, thugs, unruly pupils and children who throw stones.

The highest proportion of children observing general danger of attack from people was in rural areas. In urban areas perceived risk of attack is highest in South Africa and lowest in Ghana. In Ghana and Malawi relatively few children, particularly in urban and peri-urban

areas, perceived danger from people. However, gender patterns show a significant difference in perception of dangers in Ghana peri-urban areas where boys are more concerned than girls and in Malawi rural with service settlements where girls are more concerned than boys, but the data is perhaps more usefully examined below in terms of specific dangers from rape. Figures for Ghana in the generalised category of risk from attack by people were substantially higher than for rape or for verbal harassment (below): children in Ghana often appear to have included risks like fights with friends and bullying from older boys in this general category.

Percentage of children reporting risk of attack from people on journeys to/from school

	South Africa	Ghana	Malawi
RR	F=22.3% M=21.2	F=25.0% M=17.9	F=17.4% M=21.7
RS	F=13.2 M=11.9	F=13.3 M=20.7	F=19.0* M=7.0
PU	F=10.3 M=14.1	F=2.0* M=8.8	F=7.0 M=6.1
U	F=11.6 M=13.0	F=2.3 M=5.4	F=6.4 M=6.6

* P (Chi-square)= <0.05

The specific danger of rape on the journey to school was indicated by a much higher proportion of South African children [12.9% of the total sample] than either Ghanaians [0.4%] or Malawians [0.2%]. However, the sentiments expressed by a fathers' group in Kanyola, Malawi were common in qualitative interviews across our southern Africa sites: 'We fear girls will be cheated on or get raped on way to school'. The figures for Ghana are particularly low and are supported by qualitative evidence which suggests parental perceptions of children's travel dangers are associated

more with getting lost than with 'stranger danger' (also see Porter and Blaufuss 2003). In southern Africa, rape presents a particularly great danger given the high incidence of HIV/AIDs in the region. In South Africa, boys are possibly more exposed to dangers of rape than elsewhere in Africa, due to long-standing cultural patterns of male co-residence in male mine-labour communities. Nonetheless, significant gender differences regarding perceived danger of rape are found in South African remote rural, peri-urban and urban sites (and in Malawi urban sites).

Percentage of children reporting rape as a danger experienced on journeys to and from school

	South Africa	Ghana	Malawi
RR	F=10.3%* M=1.4	F=0% M=0	F=2.3% M=0
RS	F=1.2 M=0	F=0.9 M=0	F=1.3 M=0
PU	F=8.1* M=1.1	F=0 M=0	F=2.6 M=0
U	F=7.2* M=0.5	F=0.8 M=1.1	F=6.4* M=0

* P (Chi-square)= <0.05

Risk of harassment and verbal abuse on the journey to school was reported to come from diverse people in various contexts: drunkards, strangers, cannabis users and minibus conductors were all singled out as potential sources of verbal abuse. Such harassment is reported particularly widely as a hazard by boys

and girls in Malawi. Like fear of rape, it is rarely reported in Ghana, and particularly rarely by Ghanaian boys. In both Malawi and South Africa, a higher proportion of girls in urban and peri-urban areas report harassment/verbal abuse than boys: in Malawi's peri-urban areas this gender pattern is statistically significant.

Percentage of children reporting harassment/verbal abuse as a danger or difficulty on journeys to and from school

	South Africa	Ghana	Malawi
RR	F=7.0% M=6.8	F=2.4% M=1.2	F=12.8% M=15.9
RS	F=6.2 M=6.8	F=1.8 M=0.9	F=13.9 M=18.0
PU	F=13.6 M=4.5	F=2.0 M=0	F=22.8* M=11.0
U	F=11.6 M=4.2	F=3.1 M=0	F=17.1 M=9.2

* P (Chi-square)= <0.05

Despite all the dangers and difficulties that children reported above, remarkably few children, girls or boys, are accompanied by adults on the journey to school, whatever their age. Most children

travel to and from school in groups with their siblings and friends - their parents are at work, on the farm or otherwise occupied.

Children accompanied by a parent or other adult

	South Africa	Ghana	Malawi
RR	F=0% M=0	F=0% M=0	F=0% M=0
RS	F=1.6 M=0.4	F=3.5 M=0.9	F=0 M=0
PU	F=1.1 M=0.7	F=0 M=0.7	F=1.8 M=1.2
U	F=1.4 M=1.4	F=0.8 M=1.1	F=0.7 M=1.3

Conclusion: Significance of findings for theory and public policy

Analysis of the empirical data presented in this paper provides a comparative cross-country and locational perspective on boys' and girls' travel to school hitherto unavailable. The three countries present rather different contexts, which are reflected in our findings. Some of the selected study areas of Malawi [Blantyre region's Shire Highlands] and South Africa [Eastern Cape region] exhibit considerably more rugged topography than the sites in Ghana, for instance, which are all relatively flat: consequently the journey to school for children in remote rural areas in South Africa and Malawi tends to be more hazardous than for children in Ghana in terms of terrain and flooded rivers. This confirms a rather predictable conclusion that topography presents variable challenges for children on their school journeys, but it is important to take account of the varied terrain of African landscapes in making public policy. With reference to diverse levels of economic development, only in South Africa are there the resources to provide some degree of motorised transport provision in rural areas, including dedicated school buses. Malawi and South Africa are both experiencing high prevalence of HIV/AIDs, which not surprisingly translates into concern about exposure to attack from people and, in particular, fear of rape.

Some basic characteristics of the journey to and from school are remarkably similar across the three countries. Walking is the dominant mode of travel to school throughout all regions and in the remote rural areas of all three

countries children walk particularly long distances to and from school each day. We have undertaken accompanied walks with children on their journeys from school and can not only attest to the very real physical difficulties and dangers they face but also to the less concrete fears they express on these journeys (Porter et al. in press). Passing by a lonely graveyard or sacred grove where witches, lions and robbers are reputed to lie in waiting is a fearsome task if the child is delayed and has to walk home alone. As a young girl pupil in her early teens observed to us, as we accompanied her on her long walk home from school in a remote area of the Shire Highlands region in Malawi during one of our pilot studies, "there are so many problems [here]. You meet a very long person and I suspect it's a witch, and there are dogs that chase us and fierce animals – lions and hyenas- and they bit us. Three children were once bitten – one by a lion and she died, and two boys were bitten by hyenas, but they are still alive"

Children in rural centres with services appear to be best served in terms of short length of school journey, but this may also reflect lack of available alternative schools in the vicinity. In urban and peri-urban areas, although the density of schools is much higher, and journeys to school might be expected to be extremely short, more parents choose to send their children further than the closest school appropriate to their level, or are required by school allocation systems. Such urban journeys may impose additional stresses, especially on girl children in South Africa and Malawi, who report high levels of harassment and, to a lesser extent, fear of rape.

Again, the findings are supported by qualitative research with children and their parents and teachers, including our child research collaborators' own findings in this area. Cecilia observes: "We have to walk in groups because there are boys who are not schooling who take our money and mobile phones" (Cecilia, 18 years, Umtata, South Africa). For Susan, a 17 year old secondary school pupil in Winterveld in NorthWest province, South Africa, the dangers are even greater. She walks daily about 5 km across an uninhabited bushland area to school: "I fear people who hide in the bush [waiting] for us. They wait for us in the bush and as we walk, especially when you are alone, they grab your school bag and all the belongings that you have with you.... The bush is bad, you cannot see people hiding or seeking you.... It is even worse to cross the bush at night. There are so many rapists there at night and a lot of drunk people." We accompanied Susan on one of her journeys; the next day a girl from the same school was raped along this route. Some boys also fear attack, as our data has illustrated, but for girls the perceived risk appears considerably higher, with likely impacts on broader patterns of mobility.

There may be a number of potential routes to improving safe school access, especially for girls. These include:

1. Expansion of girls' boarding house provision and general boarding provision, especially at primary schools. Boarding is more often available at secondary school but provision is inadequate (especially in Malawi) and boarding is also needed at primary level especially for girls who live in remote rural areas. The threat of rape is such that parents delay sending their daughters to school and curtail their attendance. Boarding may reduce children's domestic work burdens during the school week and more likely availability of electricity [commonly absent in remote rural settlements] would enable them to complete homework. The loss of child contributions to domestic production and reproduction would inevitably impact on families, particularly in rural areas. A holistic approach will be needed, incorporating not only expansion of girls' school boarding provision, but also attention to labour-saving interventions which will reduce domestic work demands in home villages, especially improved water provision.
2. The walking bus is used in Western contexts to help children to walk safely to school in regions where traffic levels are high and child obesity a growing problem (e.g. Kingham and Ussher 2007). However, the walking bus may also offer a route to reducing dangers of rape and harassment. This suggestion was received with interest in our peri-urban site at Winterveld, after an accompanied school to home walk with Susan (cited above) and other children emphasised the very real fear of rape among children schooling in that community. We now have funding in place to support a walking bus pilot, in collaboration with a local NGO.
3. Cycle hire centres based at schools might help to overcome the shortage

of cycles available to girl children, in particular, for travelling between home and school. This could be particularly effective if accompanied with security measures for guarding cycles at schools and girls' training in cycle riding, maintenance and repairs. As noted above, many girls say they know how to cycle, but being able to cycle over a long distance requires associated knowledge in maintenance and repair.

4. Various non-transport intervention aimed at reducing girls' time poverty, including improved availability of water supplies, community woodlots, grinding mills etc. to reduce girls' time poverty.
5. Sensitisation of teachers and education authorities to transport/distance related lateness. Many teachers impose extremely harsh punishment on children who arrive late for school (corporal punishment, cleaning the lavatories, sweeping the yard, grass-cutting, carrying sand for school building etc.). In some cases children reported being sent directly home by teachers because they had arrived at school late, requiring them to retrace their long walk to school, possibly alone: this is the type of punishment which encourages truancy. Teachers whose pupils collaborated in our research admitted that they had not adequately appreciated the problems that children face in getting to school on time and there was a common response that they would be more sympathetic to lateness among pupils

living at a distance from school in future.

Above all, however, a stronger focus on gendered transport, mobility and access issues in the development policy and practitioner community is essential. The failure to recognise the specific importance of mobility and transport and the ramifications of immobility in the Millennium Development Goals is clear testament to this omission. In the context of the MDGs regarding universal primary education (MDG 2) and the promotion of gender equality and women's empowerment through the elimination of gender disparity in all levels of education (MDG 3), a firmer and more specific recognition of the roles which distance, perceived and real travel hazards, transport availability and other mobility factors play in allowing or barring access to school is urgently required.

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References

African Union et al. 2005 Transport and the Millennium Development Goals in Africa. Africa Union and UN Economic Commission for Africa, with the collaboration of the African Development Bank, World Bank and EU, February 2005.

Avotri, R., L. Owusu-Darko, H. Eghan, S. Ocansey (1999) Gender and primary schooling in Ghana. Sussex: Institute of Development Studies.

Department for International
Development (2001) Children out of
school. DFID, October 2001.

Ersado, L. (2005) Child labor and schooling decisions in urban and rural areas.

World Development 33, 3: 455-480.

Filmer, D. (2007) If you build it, will they come? School availability and school enrolment in 21 poor countries. J. of Development Studies 43,5: 901-928.

Gould, W. T.S. (1973) Movements of school-children and provision of secondary schools in Uganda. University of Liverpool. Department of Geography, African Population Mobility Project Working Paper, no. 3.

Khandker, S.R., Lavy, V. and Filmer, D. (1994) Schooling and cognitive achievements of children in Morocco. Discussion paper no. 264. World Bank, Washington D.C.

Kingham, S. and Ussher S. (2007) An assessment of the benefits of the walking school bus in Christchurch, New Zealand. Transportation Research Part A: 502-510.

Levy, H. and Voyadzis, C. (1996) Morocco impact evaluation report: socio-economic influence of rural roads. Operations Evaluation Department, Report no. 15808-MOR, World Bank, Washington, D.C.

Lewin KM and Sayed Y (2005) Non-government secondary schooling in sub-Saharan Africa. Exploring the evidence in South Africa and Malawi. Department for International Development, Educational Papers www.sussex.ac.uk/education/1-4-7.html

Mahapa, S. (2003) Integrating gender into World Bank financed transport programmes. Case study South Africa. Shova Kalula. September 03.

Mashiri, M. Lechwiti, V & Mpondo, B. 2001. Shova Kalula [Ride Easy] National Bicycle Partnership Program: Assessment of Phase 1. South African Department of Transport.

Porter, G. (2007) Transport planning in sub-Saharan Africa. Progress report 1. Improving access to markets and services. Progress in Development Studies. Vol 7, 3: 251-257.

Porter, G and K. Blaufuss (2003) Children, transport and traffic in southern

Ghana. Revised version of paper prepared for the international workshop on Children and traffic, Copenhagen, May 2-3, 2002. Available at www.dur.ac.uk/child.mobility.

Porter, G., K. Hampshire, A. Abane, A. Munthali, E. Robson, M. Mashiri and G. Maponya (in press) Where dogs, ghosts and lions roam: learning from mobile ethnographies on the journey from school. Children's Geographies 2010

RSA Department of Transport (Republic of South Africa) (2005) The first South African National Household Travel Survey 2003: Technical report.