This is a special issue newsletter based on collaborative case studies that examined the use of cell-phones and their impacts on the mobility patterns of young people in Africa. Following earlier research into young people’s physical mobility led by Durham University during 2006 to 2010 (www.dur.ac.uk/child.mobility/), an innovative new research project emerged to explore the impacts of virtual mobility, which has been created through mobile phone usage. Access to mobile phones is changing the decision processes that help shape mobility patterns in sub-Saharan Africa. The study is particularly focused on young people aged 9 to 25 years old, who are often at the forefront when it comes to the adoption and use of mobile phone technology.

The case studies were supported by the UK Economic and Social Research Council and the UK Department for International Development. The research was carried out in 24 study sites in Ghana, Malawi and South Africa over a three year period (2012-2015). The study team was led by Durham University in collaboration with University of Cape Coast, Ghana, the Centre for Social Research, University of Malawi, University of Cape Town, University of Hull and Gwarajena Consultancy, Pretoria, South Africa. IFRTD is helping disseminate the results of the work.

The study offers many insights into the interconnections between mobile phone usage, mobility and transport in diverse contexts. This ranges from organising daily journeys to school and workplace, to social travel and emergency travel associated with health and other crises.

In this issue of RuTraNs, we highlight some of the key findings from the project, share relevant resources and suggest potential areas for further research and reflection on the new connectivities that are now emerging.

This special edition, 8-page newsletter is available on IFRTD website as a pdf file that you can download, print, share and archive. Click here to view and download it.
COLLECTING THE EVIDENCE

The evidence base was systematically constructed using a number of interconnected components:

Qualitative Research:

- **Thematic story-based interviews:** with young people to explore how they use phones in diverse contexts, including organising transport, accessing information on education, jobs, livelihoods, religious life, political and civic issues, health, well-being and social interactions.

- **Call register interviews:** to provide information on contact lists on young people’s phones and/or sim card, on their recent calls/texts/missed calls and (phone-based) interactions/chat on social network sites. This information helps to establish the spatial scope of their connections.

- **Other in-depth interviews:** with key informants, including taxi drivers, health workers and parents; also, life histories with people in other age groups.

A Questionnaire Survey: Administered to approximately 4,500 young people (1,500 in each country, of which 1000 were aged 9-18 years and 500 aged 19-25 years). The survey (like the qualitative research) was undertaken across eight research sites per country, ranging from urban to remote rural in each of two agro-ecological zones (thus, twenty four research sites in total). It mirrors the 2007-8 survey of physical mobility patterns and transport usage among 9-18 year old people in the earlier child mobility study.

In addition to basic data about young people’s phone ownership and usage, the survey included information about how mobile phones are changing young people’s travel patterns and the travel patterns of their parents, carers, relatives and spouses, the impact this has on the pattern of face-to-face connections between young people and their family members and friends, and the use of phones to organise transport when transport problems arise.

The evidence base also draws on contributions from some of the 70 young ‘peer-researchers’, who started out with the research team in 2006: their preliminary interviews with their peers helped the team to identify key issues for research in the academic study.

Some of the researchers in Ghana, Malawi and South Africa

RESEARCH FINDINGS

The findings show how young people now regularly use mobile phones (a) to organise everyday transport and travel, (b) to organise transport in emergencies, (c) to substitute for physical mobility, (d) as virtual escorts and for way-finding. Young workers in the transport sector meanwhile use phones (e) to build and service their business clientele, and (f) to ease their navigation of potential hurdles such as traffic jams and police road-blocks.

a) ORGANISING EVERYDAY TRANSPORT AND TRAVEL

Much of the everyday organising of transport is now done by phone. This makes for easier travel and improved distance management. Urban parents may phone for a motor taxi to take their children to school when there is heavy rain or no one is available to pick up the child; young entrepreneurs in rural areas may phone for a lorry to collect farm produce or a bicycle taxi to pick up trade supplies from town, or may phone for advance information on prices before they transport their crops to market. Some examples:
“Yesterday, I called a KIA truck driver in the evening to arrange for him to cart my bags of maize... But it later rained heavily yesterday and I realised that the river may overflow ...so I called the driver [today] to inform him to postpone...” (Rural Ghana, male farmer 25y)

At night, in locations where security may be an issue, being able to phone for transport is greatly appreciated, especially by young women: “I use my cell phone to arrange transport... especially when I came late from work. The advantage of using a cab –it’s safe, like it drops me here in the yard unlike a taxi that will drop me on the road then I become vulnerable to thugs...” (Urban site, Eastern Cape, South Africa). Many urban taxi drivers now give passengers their mobile number as a matter of course, in the hope that this will lead to regular custom.

Often, phone usage in travel contexts revolves around coordinating/synchronising mobilities, as in the following case from rural North West Province, South Africa, where Sipho (not his real name), a 14-year-old boy, is trying to organise to visit his friend in a nearby town. He calls briefly before he catches the taxi, to ensure his friend is on the main road waiting there for him: “he agreed but he also told me that I must call him when I’m near”.

b) ORGANISING TRANSPORT IN EMERGENCIES

Many of the positive stories about cell phone use in the case studies are related to being able to call an ambulance or other transport to take people to hospital when they needed urgent medical attention. This might be after an accident, due to an illness, or in obstetric emergencies: “A cell phone can be of paramount importance into someone’s life; like last year in June I had contractions, then I called an ambulance on my own and it came and took me.” (Girl 18y, peri-urban Eastern Cape, South Africa).

In insecure urban and peri-urban neighbourhoods, the ability to call to organise emergency transport by phone can be especially important. One older man, a village head and neighbourhood health coordinator in a peri-urban location in Malawi, keeps a bicycle ambulance at his house but asks people who need the ambulance at night to call to warn him, before they come to use the ambulance, because of local security issues: “It is very dangerous these days, such that you cannot just go out or open a door to any knock… They first call me.”

c) SUBSTITUTING FOR PHYSICAL MOBILITY WITH PHONE COMMUNICATION

In sub-Saharan Africa there is a range of factors which may encourage people to substitute phones in place of physical mobility. These may include one or more of the following:
• Poor road conditions;
• (Un)availability, (un)reliability and (high) cost of transport services in many locations, especially but not only in rural areas;
• The potential for traffic accidents (often exacerbated by poor roads and poor vehicle condition);
• The potential for petty extortion by police and others when travelling by vehicle;
• Poverty-, gender- and age-related travel constraints (economics, culture, infirmity etc.)

The impact of such concerns was rather neatly summed up by one 15-year-old school boy in rural Ghana, who is currently living with his grandmother. “I often use [sister’s mobile phone] to communicate with my mother. It saves me from travelling… I am able to make all requests through her on the phone. It saves money, time and risks of accidents.”

For some tasks, a phone call may obviate the need to travel entirely: “I only used 50 kwacha for the air units (to inform a relative about his grandmother’s funeral, rather) than 100 kwacha for a bicycle-taxi, so I feel it was cost-cutting.” (Male 28y, rural Malawi) “Mostly, we just make a call [to mother] and discuss all the problems through the phone because transport nowadays is very expensive.” (Woman 22y, rural Malawi)

In other cases, the phone reduces the likelihood of wasted journeys. “Any message can be delivered by phone unlike former times when you had to travel and at times to meet the absence of your host at destination.” (Girl 17y, petty trader, coastal Ghana)

The findings are useful in illustrating the likely scale of impact of phone usage on overall travel. In each country where the studies were carried out, a substantial proportion of young people said they are making fewer journeys because of access to a phone. Some increases in long distance travel are probably inevitable, of course, if a person’s social or business network expands, since this is likely to create the need for more face-to-face meetings across this larger group of social connections and thus more travel. Some findings from qualitative interviews indicated an increase in long distance travel as a result of phone communication, notably with reference to communities with large migrant populations who now received messages about illness, funerals and similar major events in time for them to travel, where in the past they would have received messages long after the event. In Ghana’s forest zone, this was particularly the case regarding messages about Moslem funerals from migrants’ families in northern Ghana (since according to Islamic law, bodies should be buried as soon as possible after death and thus messages usually reached migrants in the forest zone too late in the past).

Further analysis of the data by gender suggests a greater reduction has occurred in long journeys among males in Ghana (and to a lesser extent Malawi) than among females, possibly because males have made a majority of long journeys in the past (associated with their greater access to resources and fewer restrictions on travel). In South Africa, the reduction is the other way round, with a greater reduction in travel among females than males, which may possibly be related to especially widespread phone ownership and access, coupled with major safety considerations, which encourage females, in particular, to reduce long journeys when they are able to do so.

d) VIRTUAL ESCORTING AND WAY-FINDING

When young people are travelling by vehicle, especially on long and unfamiliar journeys without any escort, access to a phone can enable concerned family members to follow their progress through to safe arrival at the destination. Calls may be made while the vehicle is en route, to ensure the young traveller is safe, and to ascertain the time of arrival so that they can be met at the destination by a trusted person:
“My mother gave me transport money [to visit my brother in the school holidays in town]. My brother and my mother were calling each other on the phone about my trip while I was in transit. When I arrived at the depot, my brother was waiting for me and he took me to his house... After the holiday my mother was informed again on the phone that I had departed... When I arrived [in home town] my mother was waiting for me.” (Peri-urban Malawi school boy, 13y)

The phone is also used to help in finding the route to unknown locations, whether by vehicle or on foot: “I was going with my friend to church. We didn’t know the place where we were going to and we were using a public transport; we kept on, directed through cellphone by [the] church member [who lives there]... if it was not for a cell phone we would never be able to find the church.” (Unemployed woman, 23y, peri-urban Eastern Cape, South Africa)

e) TRANSPORT WORKERS BUILDING A TRANSPORT BUSINESS

In developing a transport business, the phone increasingly plays a crucial role, from building a strong client base to maintaining good relations with owners and improving customer services.

Higher fares may also be charged when a client is picked up in response to a call “…the moment the person calls you …that is different from the normal fare that we charge. (Ghana urban, part-time driver). However, other drivers, notably in South Africa, spoke about some clients who regularly contact them by phone being given special preferential fare rates to keep their loyalty.

In Malawi, unlike Ghana and South Africa, there are many young men who make a living as bicycle taxi operators. Although they lie close to the bottom of the driver hierarchy, even for them the phone is increasingly important in maintaining a business: My friends who had phones had an upper hand and were making more money than me. ... I was losing business and I decided to buy my own phone to maintain my client base. (Peri-urban Malawi, 21y, bicycle taxi operator)
The phone often also plays a role in communications between vehicle/bicycle owners and their driver/operator employees.

f) TRANSPORT WORKERS NAVIGATING POTENTIAL HURDLES

Transport workers can face many hurdles as they go about their work, from avoiding harassment from police and other officials (especially when they lack essential documents) to navigating traffic congestion and dealing with breakdowns and traffic accidents.

The mobile phone now plays a key role in easing many such travel issues since a spirit of camaraderie and mutual support among drivers is common, especially when they operate from the same station or stand. In this context, phone warnings and calls for assistance in the event of breakdowns and accident are common, with police warnings especially significant. This works particularly well in urban areas where phone network reception is usually relatively good.

THE POTENTIAL DOWNSIDE OF INCREASED PHONE USAGE IN TRANSPORT CONTEXTS

For many people the availability of mobile phones in transport and mobility contexts is perceived to be entirely positive. However, some people are observing a downside to the availability of phones in their mobile lives:

- The poorer, less well networked transport operators who may not have a phone, are likely to lose out to operators who have phones.
- There are also cases of clients who call for a taxi, when they are not ready and end up wasting the driver’s time, as he has to wait.
- It might also be hypothesised that if people can substitute travel with a phone call, there will be lower overall usage of transport. A secretary of the Ghana Public Road Transport Union suggested prior to the start of this study (in 2008) that although the phone was helping him organising vehicles for customers, the disadvantage of mobile phone use... is that it has reduced the rate at which people travel by a chartered taxi.

There is also the question of possible negative impacts when people have less face-to-face contact with family, because family members phone them instead. A proportion of young people in each study country talked about perceiving that family members now visit them less because of the phone. “Face-to-face interactions have reduced. Formerly, my uncles would... visit regularly... Now they only meet when the issue is very critical... However, regular 555-867-5309 interactions have increased, because you need very little money and time to know how a relative is doing…” (Ghana forest zone, school boy, 19y)

SUMMARY OF FINDINGS

- The transport/phone nexus is evolving remarkably rapidly, as new phone apps are developed, network operators’ business operations evolve, and people’s phone competencies increase. It is likely to also change in response to transport sector developments, including movements in transport costs (affected by fuel prices and availability, possibly also development of new fuels), possible new transport modes (such as drones), and wider changes in government legislation and associated regulatory frameworks in both the transport and phones sectors. Climate change can be expected to substantially influence diverse aspects of these changes.

- Poverty encourages reduced travel where cheap calls/texts can substitute for transport charges. Currently, phones appear to be especially important in reducing expensive and potentially hazardous long-distance journeys.
The transformative potential of the new mobile-phone enabled transport connectivities, for both users and operators, can have significant positive impact on livelihoods.

The mobile phone already plays an important role in improving travel safety for women and girls, especially at night. Currently, this depends on contact with specific individuals (mostly family and friends), but there may be potential to develop phone-in centres which can operate as transport safety hubs in particularly dangerous urban neighbourhoods.

Mobile phones look to have much potential in planning towards improved transport organisation, both in emergency and everyday travel contexts.

Publicity campaigns are needed to draw the attention of drivers to the dangers of operating a mobile phone when driving (with related legislation in place).

The potential to use mobile phone SMS messages to deliver daily reminders to drivers about key safety factors such as wearing a helmet (for motorcycles) or seat belt would benefit from further exploration.

Stronger linkages are needed between transport and ICT sectors at international, national and local levels to ensure that maximum benefit is gained from observed complementarities.

**PHONES AND TRANSPORT IN RELATED ARENAS**

This newsletter has focused on the three-country youth phones study, principally drawing on individual users’ and operators’ perspectives, but there are other elements of the transport sector where phones are beginning to make significant inroads. In particular, the potential role of phones in transport organisation and planning looks very promising, as in the case of planning of Abidjan’s bus network (see BBC News, “Mobile Phone Data Redraws Bus Routes in Africa,” 1 May 2013, [http://www.bbc.co.uk/news/technology-22357748](http://www.bbc.co.uk/news/technology-22357748)) and Nairobi matatu route planning (see Williams et al. The digital matatu project: Using cell phones to create an open source data for Nairobi’s semi-formal bus system Journal of Transport Geography, 49, December 2015, pp. 39–51).

In the road safety arena, an (ongoing) project led by the NGO Amend looks at using Text Message (SMS) Reminders on Helmet Use among Motorcycle Drivers (led by Amend and conducted in Dar es Salaam, Tanzania, [see https://clinicaltrials.gov/ct2/show/NCT02120742](https://clinicaltrials.gov/ct2/show/NCT02120742)). Use of phones in the maternal-health arena is expanding particularly rapidly, and can be seen with specific reference to the private transport sector in a number of recent programmes. For instance, those run by the NGO Transaid, including a referral scheme for maternal health in Kenya, where recruitment of motorcycle taxi drivers of good standing who own their own motorcycle, a license, a phone and helmet is a key element ([http://www.transaid.org/updates/designing-a-referral-scheme-for-maternal-health-in-kenya/](http://www.transaid.org/updates/designing-a-referral-scheme-for-maternal-health-in-kenya/)).

For more information on the project as a whole, please contact the Principal Investigator, Gina Porter, r.e.porter@durham.ac.uk

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**In Memoriam**

We wish to record and remember the enormous contribution that James Milner of the University of Malawi made to this research project. James, who led field work in Malawi, died tragically following a traffic accident in Malawi in September 2014. He is greatly missed.
Research project website: www.dur.ac.uk/child.phones/


