International Network for Transport and Accessibility in Low Income Communities

INTALInC

May 2017

Report on the workshop

Transport and Mobilities: Meeting the needs of vulnerable populations in developing cities

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

Durham University

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Foreword by Professor Karen Lucas, INTALInC Director

The social consequences of inadequate transport systems in developing cities have been largely ignored by transport academics and policy makers alike. The INTALInC project brings key stakeholders together to discuss and expose the important links between people's ability to move and their opportunity to participate in life-chance opportunities such as employment, education, and healthcare and welfare services. We also want to ensure that people can travel affordably and without fear for their lives whether on foot, by bicycle or by public transport.

This report is a record of the first of these discussions between researchers, policy makers, and service providers from across the transport, education, safety and environmental sectors in Ghana. The workshop, jointly facilitated by the University of Cape Coast in Ghana and Durham University in the UK, specifically focused on the important issue of mobility needs and safety of young children when walking to school.

As part of the workshop activities, our hosts took us onto the streets of Cape Coast and introduced us to some of the school children there who were navigating their way home from school. It was a real eye opener. Most children walked alone or with even younger siblings, some (mostly boys) cycled, and a very few older children took a taxi to school further afield.

It is now the educational policy in Ghana for every child to attend a school free of charge within a 10-15 minute walking distance of their home. But we accompanied children who had more than a 45 minute walk to school. They walk on busy roads with no pavements, few safe crossings, through unsafe back routes, and in the blazing heat. They are skilled navigators of these environments from an early age, but they shouldn't need to be.

We think that planning the streets so that children have safe routes to schools and play areas should be a key aim of the Sustainable Development Goals in all developing cities. In this summary report, we present some of the research evidence for what needs to change and why. It is my sincere hope that we can grow the strength and reach of the INTALInC project to influence the transport policy agenda in cities like Cape Coast to better protect and promote the mobility and welfare needs of its children. Making streets safe places for children to walk to school will make them healthier environments for everyone. I would like to thank all the workshop participants for bringing this important issue of child mobility to the attention of our funders and the wider research and policy community.

Karen Lucas
July 2017

Introduction and overview of the report

Following a preliminary meeting of network members in Leeds, INTALInC began its discussions around meeting the transport needs of vulnerable, urban populations at its first research workshop at the University of Cape Coast, Ghana on 21 – 22 May 2017[1].

The workshop, which focused on the gendered mobility needs of children and young people, brought together local stakeholders including representatives of the Police, the National Road Safety Commission, Ministries for Transport, Education, Children, and Environmental Protection, the Department for Women and the African Development Bank, as well as around 20 academic staff from universities in Ghana, Nigeria, Uganda and the UK.

Practical fieldwork was central to the workshop agenda and participants took part in field trips observing and interviewing:

- Young people in the Abura neighbourhood;
- School pupils in the Cape Coast metropolis;
- Students with disabilities at University of Cape Coast.

There was a series of presentations by Cape Coast academic staff and contributions from non-academic experts. This led to extensive discussion around the research gaps focused on the needs of young people.

INTALInC, funded by the ESRC's Global Challenge Research Fund, has been established to build lasting research partnerships to develop research promoting urban transport systems that can meet the travel needs of low income and other vulnerable populations in cities in the Global South. The meeting in Cape Coast was the first in a series of four country-based workshops which will communicate the transport and accessibility needs of vulnerable populations to local and national decision makers.

Context of the workshop[2]

Cape Coast is a secondary city in southern Ghana with a population of approximately 170,000. It is a major trade and transit hub, as well as a leading centre of education. Many local transport issues resonate country-wide.

Transport problems in Cape Coast are exacerbated by the pre-1900 buildings which dominate the city centre. While offering significant potential for tourism, they inhibit traffic flow particularly around

[1] INTALInC is supported by the Economic and Social Research Council grant ES/P006221/1

[2] Information taken from 'Urban Transport in Cape Coast, Ghana: A social sustainability analysis', Gina Porter (2013) prepared for the UN Habitat Sustainable Urban Transport: Global Report on Human Settlements

markets and other busy areas. The northern edge of the city is flanked by the Accra – Takoradi trunk road which has an additional impact on urban traffic flow as, in an attempt to avoid congestion, local traffic diverts to narrow unpaved suburban routes, leading to gridlocked residential areas.

Transport-poverty linkages are strongly in evidence: while the middle classes often have access to private vehicles for personal use, this privilege does not extend to the urban poor. A survey of 125 children in Abura (where INTALInC workshop attendees undertook fieldwork), suggests that only 4.5 per cent of families own a car. The majority of residents are either dependent on public transport, or walk or cycle to work and school.

Poorly maintained, potholed roads and congestion mean that traffic is often gridlocked, especially during the morning and evening rush hours. Holdups are compounded by street hawkers, often children, who congregate to trade on main roads and at busy junctions, sometimes risking their lives by cutting through traffic at the prospect of a sale.

Many households rely on wood or charcoal for cooking and do not have a domestic water supply. Porterage of these essentials leads to further congestion, and is often carried out by young girls and women either by handcart or load bearing on foot, with significant health and education implications.

The other main type of journey made by young people is travel to and from school. Most of these journeys are short, though even children who attend schools further away from home do not have funds available for public transport and tend to travel on foot. During the wet season, side roads are often flooded or covered in deep mud, which has a negative impact on school attendance.

Pedestrian safety is a major cause for concern in Cape Coast. With no pavements, their small stature means children are particular vulnerable in the city's dense network of narrow streets and hawkers face additional dangers. Poor street lighting also has significant implications for pedestrian safety and security.

Aims of the workshop

The workshop. 'Transport and Mobilities: Meeting the needs of vulnerable populations in developing cities' forms part of INTALInC's overall aim to create future research partnerships promoting urban transport systems to meet the needs of low income populations in the Global South. In order to further this aim, INTALInC has undertaken to deliver a series of 'research into practice' workshops, facilitating exchanges between network members and stakeholders wishing to explore the practical challenges, as well as the theoretical and policy aspects, of transport and mobility.

Specifically, the workshop aimed to:

- Draw attention to the specific mobility vulnerabilities and constraints faced by children and young people in urban locations through both lecture presentations and field study;
- Encourage participants to utilise participatory research methods such as walking interviews in working with vulnerable populations;
- Encourage participants to include community co-investigation within a mixed-methods research methodology as a key route to building a stronger evidence base when working with vulnerable populations;
- Encourage participants to engage actively in field investigation of key mobility issues;
- Draw attention to the diversity of mobility vulnerabilities evident in the Cape Coast urban context;
- Encourage debate among diverse actors (academic researchers, NGOs, governments agencies, the private sector) regarding the mobility issues faced by children and young people in urban environments and thus encourage improved policy and practice; and
- Build networks and coalitions across the academic, policy and practitioner divide to address the mobility needs of vulnerable populations.

Day 1, 22nd May 2017

Session 1: Introduction

Professor Albert Abane (AA), University of Cape Coast; Professor Karen Lucas (KL), University of Leeds

AA introduced Professors Stephen B. Kendie and Francis Amuquandoh, who welcomed the workshop attendees to the University of Cape Coast. They noted that the focus of the workshop is something of concern to many sections of society: children, mothers, the elderly, and disabled. The size of these populations is increasing and must be factored into planning. Professor Amuquandoh questioned whether the planning of transportation facilities in Ghana took the needs of the vulnerable populations into account.

AA and KL outlined the purpose of the meeting, the first INTALInC workshop outside of the UK. The workshop aimed to understand the transport needs of vulnerable populations, not only in the countries explicitly linked to the INATLInC project but across Africa and Asia. Over the course of four workshops the network would develop a research agenda, and the hope was that the different country teams involved would then be in a position to undertake research in their own countries.

The interdisciplinary aspects of the network were of primary importance, allowing investigation into travel behaviour as well as infrastructure. Socially sustainable mobility systems were already in existence and it was vital to include these in the design of new transport systems. It was also necessary to talk to policy makers, and consider broader livelihood systems.

INTALInC members were looking to broaden the existing network as far as possible and workshop participants were encouraged to sign up to INTALInC via www.intalinc.wordpress.com

Session 2: Children and young people's Mobilities in the Ghanaian urban context

Dr. Simon Mariwah (SM) and Samuel Owusu, University of Cape Coast

In Ghana there was a general perception that roads are designed for the exclusive use of cars, rather than pedestrians. Mobility was part of day-to-day life experience for children, considered 'mundane' to the extent that a related research agenda was unnecessary. However, data showed that Ghanaian children move around a lot, and that their movements were not well understood.

The presentation drew from the ESRC DFID-funded project, 'Children, Transport and Mobility in Sub-Saharan Africa' led by Gina Porter. Following an overview of qualitative data collected in urban

contexts, and the results, it was recommended that a greater understanding of mobility needs is necessary in order to develop more appropriate policy.

Session 3: Methods for researching young, vulnerable populations in Ghana

Professor Gina Porter (GP), University of Durham

Almost 50 per cent of the Ghanaian population is under 19 years old, and an inability to move safely or securely would ultimately have a significant impact on broader society. In transport research contexts, it was important to consider young people in terms of their different ages, gender, physical stature and ability to move, as well as factors such as a lack of voice – Ghanaian society demands that children are 'seen but not heard'.

The standard approach to transport planning was through quantitative surveys and statistical analysis. This often led to problems when surveys did not ask the most pertinent questions, rendering results potentially worthless. Qualitative interviewing could lead to a better understanding of issues, but the inherent limitations on the size of sample in this approach were problematic. A mixed methods approach, whereby subsequent qualitative interviewing influences the questions included in a quantitative survey, then followed up by a further phase of qualitative interviews, is preferable. Co-investigation with communities as part of a mixed-methods research project offers an even stronger route to understanding the needs of vulnerable groups.

In her project, 'Children, Transport and Mobility in Sub-Saharan Africa', GP used a peer-to-peer, participatory interviewing technique, training young people in research methods in order to enable them to interview their peers. Young researchers collaborated with project staff to develop interview questions, methods and to select locations, ultimately leading to improved research data that researchers were confident was a better reflection of the issues impacting on young people's mobility. Despite the increased amount of time the technique demands and associated ethical issues, the research gave unique access to participants, better insights, and redressed the power balance between researchers and interviewees, GP concluded that improving access to key services is essential and that not enough attention had been paid to young people's experiences and needs.

Session 4: Walkability of routes to school study

Regina Amoako-Sakyi (RA) and Professor Albert Abane, University of Cape Coast

Inspired by the project, 'Children, Transport and Mobility in Sub-Saharan Africa', RA and AA had undertaken further research to examine the walkability of children's routes to school.

A large proportion of children living in the Global South, many of whom are 'captive walkers' with no alternative means of transport, travelled to school on foot, thus good walkability of their routes was essential. Due to their small physical stature and potential lack of judgement, children were particularly vulnerable as road users. Researchers noted that there is limited walkability of school routes in Cape Coast despite the significant health, economic and environmental benefits of building walkable neighbourhoods.

The presentation described research methods and provided an overview of results. It was shown that between 70 and 80 per cent of routes to school lay close to low volume routes and that only about eight percent of routes included buffers to protect children from passing traffic. There were few pavements, particularly in low income communities, and where there were pavements they were often obstructed. The majority of children included in the study had to cross a highway in order to reach school, and most of these routes did not have speed limits. There were no demarcated school zones, and drivers considered children to be a nuisance on the road: more than half of the children interviewed stated that drivers did not stop to allow them to cross the road. Routes to school varied in their busyness, leaving young pedestrians vulnerable to crime on quieter paths. Children and researchers scored routes for walkability. Researchers concluded that although children downplay the risks on a journey, they are extremely susceptible to safety issues, particularly on better maintained roads where there were more accidents involving pedestrians. To some extent, gender affected the walkability scores of routes, particularly in terms of security; other criteria were similar according to gender. Low income populations were so used to risk taking they no longer consider problems objectively.

Session 5: Young people with disabilities and bus transit on UCC Campus

Prince Kwame Odame (KO), University of Cape Coast

Disabled road users were particularly at risk and routes should accommodate the varying physical constraints of users. Although in an attempt to improve accessibility some adjustments had been made to facilities on the University of Cape Coast campus, in many cases they were ineffective.

KO's presentation provided an overview of his study looking at the experiences of visually impaired students and wheelchair users on the University of Cape Coast campus, as well as the transport officer and estates officer responsible for overseeing accessibility. The study encompassed an accessibility audit and interviews were conducted with research participants. Findings confirmed that none of the boarding platforms on the campus shuttle buses met the requirements of wheelchair users, there was no signage indicating priority space for disabled passengers and that drivers did not provide any special assistance to this group. Although disabled students were given free tickets for the shuttles,

drivers were resentful of the system which resulted in a loss of income for them. As a consequence of poor communications within the franchising system, some were unaware that the system existed.

The study also looked at the behaviour of disabled students using the shuttle buses on campus – there were no passenger operated bells used to indicate to drivers when passengers wish to disembark, and visually impaired passengers were forced to ascertain the location of bus stops by asking people sitting close to them for assistance; although this enabled them to use the shuttles more easily, it did nothing to increase their autonomy.

Interviews with transport and estate officers on campus provided information on the criteria for selecting shuttle operators and existing interventions to facilitate the mobility of disabled students on campus.

Session 6: Plenary discussion

It was generally agreed that drivers take priority on Ghanaian roads and had little consideration for non-car road users. Despite the efforts of the National Road Safety Commission (NRSC), there are few systems in place to promote the safety of road users. Questions remain as to how this culture can be rectified.

Daniel Essel, (Ghana Ministry of Transport), noted that the NRSC lacked the capacity to enforce safety recommendations. Institutions could not be made to comply with safety directives though the government was considering the development of a compliance organisation. The NRSC had introduced crossing points on roads and a number of other safety campaigns were ongoing, as well as an engineering audit though recommendations made had not been included in road design projects.

Mam Tut Wadda, (MTW) (African Development Bank), highlighted some of the organisation's initiatives, including a community and infrastructure development project supporting populations living on transport corridors and a project looking at the facilities available to communities along rural routes. These groups were then supported to make improvements to their local infrastructure. A peri-urban road project in Accra led to upgrades to 14 schools when the road was built. An urban masterplan, which includes road safety assessments for non-car road users, had also been implemented. Within the bank, there is a new department for cities and urban development.

Major stakeholders, including the African Development Bank and the Ghanaian government meet four times per year to look at specific transport themes. Last year, the group examined urban mobility

and as a consequence a lot of work is being undertaken in cities. It was suggested that representatives of INTALInC could present at a future meeting of the Transport Sector Working Group, allowing the network better access to major funders and stakeholders.

Bernard Abeiku Arthur, (BA) (Cities Alliance, Accra), noted that there was insufficient research into public transport use initiated in Africa. There was a need for a transport observatory and a shared data facility, as well as improvements to the training available to engineers.

Work on the Accra motorway extension had continued despite significant changes to its surrounding environment as it transformed into an urbanised corridor. Two-wheeled transport was perceived as 'the enemy' but in fact served a purpose given local preferences for door-to-door transport.

African cities were spreading and a growing middle class preferred to live outside of city centres. New neighbourhoods lack infrastructure development and so children spent substantial proportions of their day travelling to school by car. Parents then made adjustments to their working days to accommodate the significant distances they travel through heavy traffic to collect their children from school. There was a need for further research in this area.

Charles Asenime, (CA) (Lagos State University), noted that although Nigeria's transport policy had first been developed in 2003 and had been revised twice since. However, as it had not been made law, enforcement was impossible. CA asked whether there is a walking policy in Ghana, and commented that without such a policy it was impossible to create appropriate legislation.

In response to issues faced by disabled passengers on University of Cape Coast shuttle buses, CA and S.G. Odewumi, (SO) (Lagos State University), suggested that the University could do more to support this group by paying a subsidy to drivers in return for transporting disabled passengers.

Thywill Eyra Kpe, (TK) (Regional Directorate, Department for Women), noted the gap between research and policy despite the presence of institutions in Cape Coast capable of creating synergy between academics and stakeholders. There was a need to bring interested parties together, engaging policymakers at regional and national levels, by creating platforms for communication between groups.

Peter Kasajia, (PK) (Urban Action Lab, Makerere University), discussed the challenges of urban growth in Africa. Infrastructure development could not keep pace with the speed of growth. In response, GP noted that these problems are relevant to many areas beyond transport and that occasional meetings with stakeholders would be insufficient to address them. There was also a need to distinguish between urban sprawl and peri-urban environments, and consider factors that would

encourage people living in peri-urban areas to use rapid transport systems. This was a question of political will. KL agreed, stating that there was a need to communicate the broader cost issues to people's lives impacted by transport problems.

Day 2, Tuesday 23rd May 2017

Session 1: Feedback and discussion of fieldwork

Participants reported back on their experiences during the fieldwork exercise on Monday 22nd May 2017.

Kwabena Koforobour Agyemang, (University of Cape Coast), commented on the risk to children of kidnap. A number of cases had been reported on social media and in the national news. Additionally, there were no marked areas for pedestrians; cars and children are using the same space, and cars were driven through groups of children without giving way to them. In areas where there were pavements and kerbs, these were often blocked and were not used by pedestrians.

PK reported that he had walked through a number of districts, including Abura where children used the settlement as a transport route, avoiding the danger of walking along the highway. This suggested that children were able to adapt to the built environment, and either consciously or unconsciously adjusted their habits to accommodate local conditions.

KO had not seen anyone with disabilities using the route he followed, though it wasn't clear why. There were no bus stops or places to shelter from the sun. Fieldwork participants observed children moving between school and home using the tro tro; the size of the vehicles did not appear to affect the number of people who travelled and children were packed into already crowded taxis.

GP had seen some bicycles, however these were only ridden by young boys. Older boys walked along the road, even where there was space available behind the kerb. Children travelled on the front of motorbikes, often driven by their fathers who wore safety helmets, although the children did not. She also noticed a little boy carrying a large bag of shopping to help his grandmother. Adults travelled two to a bicycle and, while girls tended to travel in mixed age groups, it was noted that boys only appeared to walk in groups with other boys of the same age.

RA pointed out that traders in Abura did not use the entire width of the pavement, leaving some space for pedestrians, although it was not clear whether this was an attempt to leave room for people

to walk past, or space left for potential customers to look at their goods. Despite this, pedestrians had struggled to navigate their way around the traders' stalls without knocking over their goods.

KL reported on her visit to a market where she had observed children wearing school uniform selling goods after their return from school and a large number of girls caring for younger children and infants. Although the children had been unwilling to answer questions, it was clear that mobility in the neighbourhood was adversely affected by several factors, including the large volume of unregulated taxis in the area.

A number of workshop participants commented on the difficulties faced by children as they left school at the end of the day. The schools were situated on the sides of busy roads without crossing places, and drivers made no attempts to allow the children to cross over. SO noted the disconnect between general research and study of the issues faced by specific groups of people. There is a large body of research on roads and infrastructure, though very little available on the needs of children. The roads in Cape Coast appeared to be in good condition but there were very few zebra crossings or barriers between pedestrian and vehicular routes.

Session 2: Stakeholder discussions on mobility and young, vulnerable populations

Transport and mobilities for young people in cities

Kwabena Koforobour Agyemang, University of Cape Coast

KA's presentation provided an overview of the different types of transport used by young people in Ghana. There were no plans to accommodate any transport other than cars on the roads, and mass transit plans were unpopular. Transport varied between regions and bicycles were particularly popular in northern Ghana, where historically they were used by agricultural workers. In Accra, bicycles were less common and viewed as a nuisance by road users. The tro tro carried significant safety risks though were considered convenient, compatible with poor road conditions and flexible to user demands. KA concluded that there was need to promote complete streets policy, bridging gaps between awareness and action. There were questions surrounding engagement with policy makers and ways in which various forms of transport could be promoted.

Comments and feedback:

- There was a need to consider the financial implications of proposals made in the presentation. Suggestions should be considered in the African context of significant financial constraints on the development of transport systems;
- Consider how the principles of complete streets policies could be adapted to meet the limitations of local institutional frameworks;
- The data was not gender/neighbourhood disaggregated resulting in the loss of important elements of understanding.

Transport and health issues for children and young people

Akoto Otupiri Darko (AD), University of Cape Coast

Transport related health issues could be categorised as road crashes, emissions and pollution, and communicable disease spread on the public transport system. The movement of large numbers of people, primarily women, children and young people, had been identified as a means of spreading disease. There were significant safety risks attached to the conversion of imported goods vehicles to public transport. The majority of current research output focused on road traffic accidents and emissions, while little had been published on the spread of communicable diseases. AD had surveyed public transport operators and passengers to understand their awareness of the spread of diseases. Although most passengers agreed that there was risk in using public transport, transport managers defended standards of hygiene.

Comments and feedback:

- The specific needs of old and young people need to be kept in mind throughout the research. These groups had particular vulnerabilities in terms of disease.

Pedestrian safety to school

Thomas Boakye, National Road Safety Commission

The NRSC was established by an Act of Parliament in 1999 to promote safety practices for all road users. Ghana had the safest road transportation in Africa. Most road accidents involved cars though there had been year-on-year reductions in fatalities since 2012. The majority of fatalities occurred in non-urban environments, and men between 26 and 35 years old were particularly vulnerable. Most collisions involved knocking down pedestrians, often on straight roads as a result of cars overtaking. Preventative measures such as road humps had been introduced.

Girls' and young women's travel security

ASP Irene Oppong, Ghana Police Service (Central Region)

The presentation provided an overview of issues faced by girls and young women while travelling, and the specific risks and preventative measures this group were advised to take by the Ghana Police Service. The police service suggested that any refusal to conform to these measures would greatly increase the risks faced by young women whilst travelling. Trafficking of girls from rural to urban areas was a major concern.

Public Transport and Air Quality: implications for young lives

Peter Nana Ackon, Environmental Protection Agency

Traffic calming measures such as road humps had an adverse effect on pollution levels both in terms of emissions and noise. Data from 2012 showed that 72 percent of all pollution in Ghana comes from particulate matter, which causes more illnesses than any other pollutant. Only nine percent of routes in Ghana met international guidelines for pollutant concentration while four percent are considered 'very hazardous'. There had been considerable effort to address the problem in terms of policy and guidelines though this was not always effective and factors which were common in communities near schools and markets such as cars driven in a low gear, road humps, traffic lights, police check points all resulted in increased exhaust emissions.

Comments and discussion:

- The majority of users of public transport were women and children, and attacks and sexual abuse of women using public transport was a significant problem in Ghana and elsewhere. Some women and children were afraid to use tro tro, fearing abuse from drivers, while others were forced to use tro tro or tricycles while in labour, leading to health problems. The Ghana police had implemented a programme of crime prevention, visiting all police divisions and targeting women and tro tro drivers. The police would also visit schools in June and July, messages about security and information sharing were spread through radio interviews and there were police patrols on roads.
- Tricycles travel between lanes of traffic and people can be observed transporting children on the front of the tricycles. However, there was concern that people would lose their livelihood without access to tricycles which the government were attempting to ban. The police were currently implementing a programme of education, arrest and prosecution for those using the vehicles without recourse to safety.

- It was clear that road safety initiatives focused primarily on education. However the main problem appeared to be the lack of safe crossing points outside schools and the fatalities on the roads would not decrease until these were introduced.
- The death toll of women and children far exceeded those of other groups. This information must be shared to highlight the plight of vulnerable road users.
- Although there was interaction between the NRSC and the Environmental Protection Agency, other stakeholders needed to cooperate with each other to a greater degree. The regional highways authority prepared local plans for work but these were then sent to Accra, rather than being dealt with locally. Different agencies had valid perspectives and held to data of mutual interest, and there was a need to pool information and find a collaborative way of dealing with issues.
- The NRSC had attempted to implement laws protecting children travelling to school but these had either proved ineffective or been rejected by government. There were issues surrounding the prosecution of mothers and their inability to care for their children following arrest. It was suggested that arresting mothers was unnecessary and that there were less draconian ways in which laws could be enforced.
- The NRSC Safe Walk to School incorporated the design of routes, including walkways. As these were frequently used by traders to accommodate market stalls, the NRSC was working with municipal agencies to ensure that walkways were clearly marked for pedestrian use when roads were laid out. Police and city guards were involved with ensuring that walkways remain clear. The NSRC had also introduced a network of lollipop and pelican crossing points.
- Tro tro fulfilled a market need, provided a service that people want and, despite concerns relating to their safety, an outright ban would not be sensible.
- Speed humps were a clear example of conflict between road safety and pollution concerns. There were difficulties in keeping people away from pollution, and resettlement programmes and measures preventing children from playing outside placed constraints on people, rather than controlling pollution. Speed humps were universally disliked but they could not be removed until an effective alternative is in place.
- It was not clear why people did not identify roads running through communities as hazardous, in fact roads were seen a source of livelihood for local communities. Further research should be conducted into the health complaints of children living in polluted areas. Equipment for measuring pollution in Cape Coast was available but the Environmental Protection Agency had been unable to site them.

Session 3: Feedback and discussion of fieldwork

Students who spoke to the group that accompanied disabled users of the University shuttle service stated that the shuttle was their preferred mode of transport on the University campus because it was safe, secure and free to use (although price did not appear to be a determining factor in transport choice). Students also stated a preference for the social aspects of travelling on the shuttle. However, wheelchair users had to use taxis as the shuttles were inaccessible to them. Because the shuttles had been badly converted a minor crash could lead to significant injuries, for example fieldwork participants noted a dripping water tank positioned directly behind the driver's seat. The driver did not engage the brake while students boarded the shuttle and able bodied students pushed in front of disabled shuttle users. Researchers suggested that the University should engage students in diversity training.

A number of observations were made by fieldwork participants taking part in accompanied walks with school pupils:

SO noted that there was no pavement or walkway on the route he followed. The children walked through the same area every day and received payments in return for running errands for traders. Although the children had been taught to walk towards oncoming traffic, they chose to walk away from it, enabling them to negotiate the layout of junctions more easily. The group had seen posters along the route advising children on road safety.

Children were playing in the park along the route, though it had not been possible to interview them. However, safety issues attached to playing away from home until late in the evening were noted and SO pointed out that time-based speed restrictions on traffic would be rendered pointless in cases where children took so long to travel the route between school and their homes.

MW walked with a child who returned home from school via the market where his mother worked. He visited his mother every day to collect the fare for the tro tro, a device employed by the mother to ensure the safety of her child. MW had spoken to the child's mother who told her that during the recent election campaign, a school bus had transported the children between home and school. However, the service had ceased following the election perhaps because the then incumbent government lost the elections of which the sponsor was a minister.

TK had walked with a boy for 45 minutes but due to the time limited exercise had to leave him before he got home. The child had been using the same route to get to school since he was six years

old. While the group walked with the boy, he crossed five roads though there was no road providing direct access to his home and, once he reached his community, the boy used a path littered with stones and rubbish. Although there were zebra crossings along the route, they were badly situated and remained unused. Although it had been stated that there were schools every two kilometres, this was clearly not the case as the child had to walk much further to reach school.

Session 4: Discussions on action programme to address research gaps and data needs focused on the needs of young people

Workshop participants were asked to comment on their experiences at the workshop and how these had affected their thinking.

SO commented that discussions and fieldwork had drawn attention to specific issues faced by vulnerable groups and that it was clear that in advising policymakers, it was vital to take note of human perspectives as well as infrastructure issues. From a people perspective and from the point of view of children, it was clear that current mobility systems were not fit for purpose. Although the children involved in the fieldwork had been very streetwise, they faced significant obstacles beyond their control and were unable to protect themselves from problems such as air pollution, speeding traffic and poorly maintained or missing pavements.

Fieldwork opportunities during the workshop had encouraged workshop attendees to consider the broader impact of mobility problems in Cape Coast. SM noted that it was wrong to make assumptions about issues, rather researchers should experience situations for themselves. It was generally agreed that transport systems planners often planned according to their own preconceptions rather than real situations and needs. By undertaking participatory research, we could reach a better understanding of mobility requirements.

MW also commented on the advantages of participatory fieldwork. She stated that it acted as an enabler, providing participants with the opportunity to propose solutions rather than having these prescribed to them. She also noted the need to engage with parents as well as children in the target group. The fieldwork had shown the low level of understanding parents had of safety issues faced by their children.

BA commented on the benefits of bringing a full range of stakeholders and researchers together to engage with each other and create new networks. There was a clear need to formalise research interpractice. There was a need to look at the transport value chain and private sector representatives should be included in future discussions.

GP congratulated workshop participants for their involvement in the fieldwork and encouraged them to reflect on their thoughts and experiences in their everyday work.

Session 5: Assessment and closing remarks

GP suggested that it would be helpful to set up a webinar from the next INTALInC workshop in order to allow wider access to discussions. She encouraged workshop attendees to include participatory observation fieldwork techniques in their future work and to report back on this to the network. It was agreed that an Early Career Researchers' Network should be established to broaden the impact of INTALInC activities.

KL stated that there was a lot to learn from experiences Ghana. There was a general awareness of mobility systems and a clear intention to further reduce road deaths in the country with initiatives in place to facilitate this. However, there were many things which could be improved. Schools must start to consider issues from the bottom up, although there were significant, overarching problems such as the placement of schools within the communities they serve. There were also significant issues around pollution. Making the improvements necessary would be a massive task but we should consider the benefits of research interpractice in facilitating them, and identify what information we need before drawing conclusions. It was possible that information was already available but needed to be understood from different perspectives; likewise improvement programmes already in place required thorough evaluation. It would then be vital to disseminate these evaluations to a wider public. We need to establish methods of sharing information more effectively and maintaining connections between researchers and stakeholders.

KL and AA thanked participants for attending the meeting and the workshop was brought to a close.

Appendix 1: List of participants

Karen Lucas, Network Director	University of Leeds, UK
Regina Obilie Amoako-Sakyi	University of Cape Coast, Ghana
Charles Asenime	Lagos State University, Nigeria
Albert Abane	University of Cape Coast, Ghana
Peter Nana Ackon	Environmental Protection Agency, Ghana
Linda Affotey	National Road Safety Commission, Ghana
Kwabena Koforobour Agyemang	University of Cape Coast, Ghana
Kwabena Barima Antwi	University of Cape Coast, Ghana
Bernard Abeiku Arthur	Cities Alliance, Accra, Ghana
Thomas B. Boakye	National Road Safety Commission, Ghana
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