Engaging citizens from low-income communities in transport planning: experiences from peer research studies conducted in three African cities☆

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ABSTRACT

This paper draws on experience from a series of transport-focused studies built round peer research with community members resident in low-income neighbourhoods at the periphery of three major cities: Abuja, Cape Town and Tunis. These were conducted firstly with young women aged 18–35 in all three cities over a four-year period (2019–2022, i.e. spanning the pandemic), followed by a recently completed pilot with young men in the same age group (but in this case restricted to Cape Town). The paper reflects firstly on the peer research methodology employed (including training procedures, ethical issues and context specific challenges/barriers) and the significant field outputs achieved by the groups concerned through their in-depth interviews, participant observation and mobility diaries. It then moves on to consider the engagement of the community peer researchers with city transport professionals and practitioners at our project stakeholder consultative group meetings and their potential for promoting the design of more inclusive, accessible and sustainable transport systems. While peer researchers' direct field evidence offers rare insights into the transport and mobility challenges that many marginalised residents of these low-income neighbourhoods experience in the everyday – perspectives that could be crucial to effective user engagement around transport issues in an Urban Living Lab - the actual patterns and potentialities of engagement within each city that might promote a more socially just travel environment are strongly shaped by a range of locally specific factors. These extend from resource and policy contexts set within distinctive local urban geographies, to the personalities and positionality of all actors involved.

1. Introduction

Peer research is a participatory research method in which research subjects from the same social or generational group are active partners in the research process (Devotta et al., 2016; Ngarachu, 2016; Vaughn et al., 2018; Bell et al., 2021; Fahlberg, 2023). Its employment is mostly in studies built round social work and health, principally in the Global North. In mobilities/transport-focused academic studies, peer research has been extremely rare to date globally: publications of mobilities/transport research using the peer research method in Africa have been almost entirely associated with the first author of this paper and collaborating researchers (with publications 2008-, e.g. Porter and Abane, 2008; Porter et al., 2010, 2015 etc.). However, interest in the method seems now to be gathering pace, prompted on the one hand by the growing focus among research funders on collaborations that extend well beyond academia and, on the other, on a growing concern to disrupt existing expert knowledge in the transport sector in Africa, Asia and Latin America. Interest in building decolonialised knowledge about transport is thus starting to expand rapidly: it revolves around a concern for promoting '*more tentative, humble and respectful ways of creating global knowledge*' (Schwanen, 2018). In this paper we aim to demonstrate the potential of the peer research method as a route into designing more inclusive, accessible and sustainable transport systems, emphasising its particular value for engaging with and addressing the concerns and needs of those more marginalised populations in African urban contexts who find it extremely difficult to make their voices heard. From this perspective, we suggest the method can be highly complementary to current initiatives that are getting under way to support the establishment of Urban Living Labs in African contexts.

In essence, peer research is about endeavouring to build power

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within marginalised communities, aligned with Lefebvre's notion of self-government where citizen knowledge reorients the state (Lefebvre, 1967). At the same time, peer research develops alliances with strong potential for co-construction of future transport worlds (Porter et al., 2020). An urban living lab is often described as a place for co-creation and innovation in which multiple stakeholders are involved in producing shared knowledge and values (Almirall et al., 2012; Veeckman and Van Der Graaf, 2015; Puerari et al., 2018). Our research engagements align with the concept of Living Labs in that we consider the peer researchers, community members, and other stakeholders we work with, not simply as 'users' of transport infrastructure, but as sources of knowledge who can be instrumental to building long-term, sustainable change in transport systems. Our peer researchers contribute their lived geographies to matters of transport planning. Their knowledge and experience of negotiating the various urban geographies that we describe below, we argue, has the potential, going forward, to provide a critical component towards the success of Urban Living Labs.

Multi-stakeholder participation is widely recognised as central to the operation of Living Labs: the holistic view of society espoused in this approach is envisioned to bring stakeholders from government, academia and private sector together with citizens (Menny et al., 2018; Scerri and Attard, 2023). In Africa there has been an interest in developing Living Labs based on this ethos for over a decade, with notable work in South Africa, but until recently this has focused principally on rural environments (Coetzee et al., 2012). Now, however, there is a strong move to initiate Living Labs in specifically urban contexts (Mukama et al., 2022): these include a major initiative by the Urban Living Lab Center, co-hosted by Massachusetts Institute of Technology (MIT), Technical University Berlin (TUB) and the Wuppertal Institute, which has collaborators from the Universities of Rwanda, Cape Town, Mohammed VI Polytechnic University, Morocco and Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development AAMUSTED, Ghana.[1]

For Africa, the Urban Living Lab Center aims to build a range of joint projects supporting the implementation of action-oriented urban development projects that will boost synergies and minimise duplications. The Centre advertises that it is dedicated to fostering sustainable urban development that is inclusive and equitable for all: "*Gender equality is a pivotal aspect of our work, addressing issues like the alarming rates of sexual harassment women face when using public transport and the underrepresentation of women in the transport workforce. We aim to ensure that women and marginalized groups are empowered to participate fully in urban transformation effort.*" However, the full development of such a citizen component is often seemingly quite difficult to achieve in practice, beyond so-called 'key informants', e-mail exchanges and surveys (as Teko and Lah, 2022 emphasise). It is likely to prove particularly challenging in African transport contexts, where senior professionals (still predominantly male, middle-aged and trained some years ago in Western universities) commonly subscribe to a technocratic approach in which both their expertise as constructors of infrastructure and their professional identity are embedded (Porter et al., 2020). Citizen users – especially those from particularly marginalised sectors - are an unknown quantity, likely to be perceived by this technocratic elite not only as ignorant, but also potentially unruly (Oviedo et al., 2018). It is probably unsurprising then, that while emerging documentation around Living Labs in Africa commonly references co-creation and participation, there is a lack of information regarding the detailed process of engagement with more marginalised community members. Given the challenges that effective community engagement brings to the fore, the peer research method that we present in this paper, built around working with commonly more marginalised community members resident in

low-income neighbourhoods, appears to have some potential for application within the new Urban Living Labs initiatives as they take form.

The peer research studies we present in the paper were conducted firstly with young women aged 18–35 in Abuja, Cape Town and Tunis over a four-year period (2019–2022, i.e. spanning the pandemic), followed by a recently completed pilot with young men in the same age group, but in this case restricted to Cape Town. We first outline the methodology employed and present a brief description of field outputs. The second part of the paper focuses on the complexities of ensuing engagements between our community peer researchers and the city transport professionals and practitioners they met with at project consultative group meetings we had set up to promote diffusion of their findings and promote policy change.

2. The peer research methodology employed

Peer researcher involvement in projects (which rarely incorporate a mobilities component) can take a variety of forms: it may be limited to data collection, or extend to incorporate analysis of data, interpretation of findings and possibly also advocacy. Limiting peer research to data collection alone might be perceived as an exploitative use of their abilities: we wished to build a fuller engagement with the young peer researchers in the studies reported here, drawing on their embedded knowledge of local context. They were thus engaged as full team members in the design of the projects, data collection, analysis and interpretation of findings and presentations to stakeholder groups. Bringing our peer researchers into writing for academic English language journals has been more challenging, given the need to ensure that, as co-authors, they really do approve the final text submitted, and any subsequent revisions required. This is a time-consuming process that can require lengthy communication, including in Arabic and Hausa. There are additional issues too regarding the ethics of maintaining peer researcher anonymity, unless they choose to disclose their names. Nonetheless, we are increasingly moving towards a fuller engagement here too, particularly regarding papers that are focused on the peer research process itself (Porter et al., 2023; Rink et al., 2025).

The peer research methodology we employed in this series of mobility-focused studies in low-income urban and peri-urban neighbourhoods maintained very similar procedures in all research sites. We first selected two of the lowest income neighbourhoods in each study city for the research: For each of these study neighbourhoods we then looked to recruit three peer researchers – young people aged 18-35y - who were resident in that specific neighbourhood (i.e. a total of six per city). They were recruited through local NGOs and CBOs that had some contacts in, and knowledge of, the communities concerned. The peer researchers were required to commit to a period of five days training, for which they would receive a daily payment to cover their time, plus food and refreshments and transport costs to/from the training venue. This was to be followed by a minimum of 10 additional days project work, and commitment to attending associated stakeholder meetings, all recompensed at the same daily rate. At the completion of the training phase they would receive a training certificate, followed by a second certificate if they completed the full additional 10 days' work required. In each city, our preference was to engage unemployed, literate young people, though some were also involved in part-time education or picked up temporary work from time to time. In Tunis the training was conducted primarily in Arabic, in Abuja in a mix of English and Hausa, and in Cape Town principally in English.

The four- to five-day training, shaped around building understanding of everyday mobility experiences and challenges in the peer researchers' residential locality, involved desk and field-based components. Typically, the first morning comprised introductions from everyone, agreeing ground rules, setting expectations, talking through the project aims and objectives, and some preliminary mapping exercises with peer researchers in groups of three, drawing and discussing what they see as key features of their community, major routeways, places they see as

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[1] Another new Urban Living Labs programme for Accra, Kumasi, Cape Town is being supported by Volvo Research and Education Foundations' Informal and Shared Mobility programme.

important, safe spaces and dangerous spaces. The first afternoon concentrated on interviewing techniques – bad and good interview sketches, then a preliminary trial of interviewing between the peer researchers, focused on the journey to the training venue that morning. The following days covered ethics of interviewing and consent, preparing an information sheet, consent forms, trial interviews with friends, family members and neighbours in the home environment subsequently reviewed in class, other exercises involving participant observation, and a series of exercises associated with writing personal mobility diaries. Through these means we were able to put together, with the peer researchers, a set of key questions that would allow a strong characterisation of mobility issues and contexts in their particular city context. This collaborative aspect of the research design was thus informed both by the research 'expertise' of the project team and critically by the embedded knowledge of peer researchers who brought a contextualised understanding of the research terrain, and its local geographies, knowing the local mobility situations better, and with the ability to draw upon connections in their own communities. Throughout, we also emphasised the importance of writing and reporting verbatim exactly what was said by their interlocuters, while recognising that [fully consented] interview recordings could be helpful on occasion. The training week was important not only for building the finer details of the project design, but also as an initiator of reflections on the peer researchers' emerging findings. With reportage of the field trials that had been conducted at home on the previous evening, each training day brought intense discussion and debate across the whole team.

By the end of the week the peer researchers were sufficiently confident to start work independently, though in each city there was at least one Research Assistant and a project collaborator in support of ongoing research, with daily contact by mobile phone. On the following 10 (not necessarily consecutive) days of work, peer researchers were required to undertake one mobility diary and a minimum of one interview per day. Many of our peer researchers continued to write up and discuss with us their personal reflections of the data they were collecting. With each peer researcher generally interviewing c. 15–20 different individuals from their community (some many more) in addition to the personal mobility diaries, the transcripts produced cover an interesting diversity of experiences from that wider community. These inputs have all contributed significantly to data interpretation and shaping of the writing up that has followed on.

The design of this entire training package has evolved from the first author's earlier mobilities-focused peer research conducted with children and older people (Porter, 2016). While the basic pattern of a one-week training, followed by a (supported) ten days minimum field work and contributions to consultative/stakeholder meetings has stayed the same, the scale of training – in terms of numbers engaged in individual training groups – has reduced somewhat. In early work with child researchers (9-19y) and older people (60+) we trained approximately 12 people per group. Each such group required substantial supporting teams of research assistants. Working with six peer researchers at a time in the more recent projects reported here has proven more manageable in terms of staffing and financial resources required. At the same time, however, these resource constraints have also limited the possibility of following up the peer research with the large-scale surveys that can be such a valuable complement.

Significant field outputs were achieved by every one of the peer researchers employed in the two projects on which we focus in this paper. Their in-depth interviews, participant observation and mobility diaries and associated personal reflections on that data have produced a richness of material that we could not have anticipated at the outset. Much of the detailed place-specific field data and analysis has been made available elsewhere (Porter et al., 2021; Porter et al., 2022; Dungey et al., 2023; Murphy et al., 2023; Porter et al., 2025a; Porter et al., 2025b; Rink et al., 2025), but a few examples can be used to illustrate the insights they offered. The young women in Abuja, for instance, drew on personal mobility diaries and interviews with other young women to emphasise how their intense fear of 'one chance' kidnap (for ransom) is affecting women's morning travel - they now often feel obliged to accompany their children to school or send them by motorcycle-taxi, where previously the children would have walked alone. In Tunis, women's field interviews and personal diaries uncovered the extent to which sexual harassment on public transport was actually forcing the removal of some women from the workforce entirely, especially in our research site outside the city boundary where long journeys to work were common; some resorted to the hijab to disguise their body shape, but even this did not necessarily prevent harassment. In Cape Town we learnt how husbands and boyfriends accompany young working women when they are walking to the edge-of-township taxi stops on dark winter mornings, due to the dangers of attack en route. Women interviewed, however, also expressed the extent of their fears for their menfolk returning back home alone. This discovery was the main prompt that led to our subsequent research into young men's mobility and safety concerns in Cape Town. Working with young male peer researchers in the same townships has, in turn, drawn our attention to the significance of life history and city know-how in shaping travel routes, tactics and mode choice

It is particularly noteworthy that peer research enabled us to continue with our studies with young women during the pandemic, when much transport-focused research necessarily came to a standstill. Our young women peer researchers from Tunis, Abuja and Cape Town had already been through training and wanted to continue with work despite the pandemic (not least because of the income it was providing). Now they focused on writing (im)mobility diaries, while on our WhatsApp group they contributed extensive news items from local media charting the fraught transport issues that arose in that period. Their familiarity with popular social media sites and access to local debates was invaluable. Their findings were foundational to the design of a series of pilot interventions led by our NGO partner in each of the study cities, aimed at improving women's safe access to transport. Individual peer researchers from Abuja and Tunis further assisted at different points in time with organisation of these intervention projects (discussed further below).

Subsequently, peer researchers (male and female) from each of the cities have been contacted and asked if they wished to be involved as co-authors in individual academic journal publications (notably those focused on method). Peer researchers have not written the first draft of any publication to date, but have been asked for feedback on circulated drafts (which some, but not all, have given). In Tunis, where none of the women peer researchers provided feedback, all wanted to be listed as co-authors; perhaps lack of feedback was a matter of language facility for this group given that the publications were in English. We have only included peer researchers as co-authors if they specifically approved the final version of the paper concerned (Porter et al., 2023; Murphy et al., 2023; Rink et al., 2025). Additionally, young women peer researchers from Abuja and Cape Town contributed (online) to discussions in a workshop which helped shaped the recently published ITF report: Youth on the Move (January 2024).

The young men involved in the most recent study, meanwhile, have participated as presenters in a major African transport studies conference in Cape Town, and the inaugural symposium of the Migration and Mobilities Interdisciplinary Collective in Africa (MMICA). In the former conference, the project team, represented by the South African research assistant, presented findings from the study; in the latter, the focus of the panel was the peer researchers themselves and their reflections on the project. They were asked to reflect on the most important take-away from the project, as well as the benefits and challenges of peer research. Mirroring findings from the earlier work with young women peer researchers (Porter et al., 2022, Porter et al., 2025a), what we learned is that peer research generally, and the Cape Town men's project more specifically, carried both opportunities and responsibilities. The opportunities included gaining new insights in hard-to-access populations, capacity-building for both peer researchers and their

communities, and the translation of research outputs to research impacts. At the same time, peer researchers and the project's academic team recognised the responsibilities that come with peer research, including obligations to peer researchers and their community(ies), capacity-building, and managing expectations of the research process and its outputs.

Despite our successes, ethical issues were encountered at various stages in both research projects. During the data collection phase in the study cities these centred particularly around field safety and security; unsurprising given that we were working in the poorest neighbourhoods of each city, where crime rates are particularly high, and specifically with groups (young women, young men) who feel themselves to be especially marginalised and vulnerable. Even our local academic collaborators – resident elsewhere in the city - were very wary of moving about some of these neighbourhoods. We thus required peer researchers to limit their interviews to people they knew well (friends, neighbours, family members) and to only travel along routes they would normally use, and only at times they felt safe to do so. If we had not had peer researchers on the team, it is difficult to see how we could have obtained sound data on young people's everyday mobility experiences from these neighbourhoods. Moreover, we needed our peer researchers' insights to be able to adequately interpret the data that was collected.

Nevertheless, complexities of engagement inevitably occasionally came to the fore, given the potentially diverse perceptions of power and opportunities for change between our young, generally unemployed peer researchers and the older, more established researchers (male and female) in our teams (Porter et al., 2023). In the first place the potential for manipulation of less powerful actors in participatory research projects of all types needs to be considered (Cooke and Kothari, 2001). Despite the ethical guidelines to which we worked (shaped by formal ethical approvals in place from our respective universities), and the emphasis across the academic research team's work and shared ethos on social justice, we still needed to keep a careful watch on our engagements with the peer researchers to ensure we did not prompt or promote any reshaping of their findings. This hinged on maintenance of discussion and debate during (and following) the workshop trainings that prioritised our peer researchers' field findings and our emphasis throughout, including in the CCG meetings, on supporting the peer researchers' own, unadulterated voices.

Lockdowns during the pandemic raised other ethical issues. They were particularly stressful for the young women peer researchers involved at that time, due to their limited resources. While the academic research teams could continue communicating regularly with the wider world, peer researchers sometimes disappeared for weeks on end, because of a shortage of funds to purchase airtime (though we transferred funds to them as and when this was feasible), lack of access to personal computers and family/community stresses. In the case of Cape Town, a majority of the young women peer researchers retreated to their family homes in the Eastern Cape, and in some cases, sadly, we lost all contact. This was not the case with our young male peer researchers in the Cape Town walking study, given the post-lockdown timing of this work, and our project WhatsApp group that has helped us to maintain contact and keep them abreast of further opportunities related to the research.

Further ethical issues arose with regard to our larger endeavour, discussed in the following section of this paper, when we actively sought to bring the peer researchers and their evidence and personal lived experience into direct engagement with city transport practitioners, with the aim of promoting a combined effort towards improved transport policy and practice in the poorest areas of the cities with the marginalised groups in question. This has required us to reflect carefully on the wider processes by which co-constructed knowledge emerges, then may either move forward or become immobilised.

3. Engaging with city transport professionals

In many respects this has been the most challenging element of both studies; it is also the component in which many of us (academic and peer researchers) had invested specific hopes. In the research with young unemployed women, planned to extend over three years, peer researchers agreed participation in approximately 4–5 monthly City Consultative Group (CCG) meetings for discussion of findings and potential follow-up actions with the policy community. Unfortunately, the pandemic brought CCG meetings to a halt for over a year, though they were eventually reinstated towards the end of the study. In the case of the one-year pilot with young men in Cape Town, only one stakeholder meeting could be timetabled. Nevertheless, as discussed below, taking each city in turn, some valuable insights were gleaned from these meetings that indicate how actual patterns and potentialities of engagement are strongly shaped by a range of factors, not least specific policy and resource contexts set within distinctive local geographies, and the personalities and positionalities of those involved. These insights are important when contemplating the potential for bringing the peer research method into a wider set of living lab activities.

3.1. Abuja

In Abuja we held five consultative group meetings with input from our peer research team (a mixed group of Moslem and Christian women from diverse ethnic groups). Gaps in the country's pandemic lockdowns enabled meetings to continue in person: a great advantage in terms of continuity. Beyond the project team, attendance extended to 15 individuals, on average, with representatives from relevant local government, federal ministries (Transport, Women's Affairs, National Centre for Women Development, Federal Road Safety Corps), police, NGOs, the parastatal Abuja Urban Mass Transport Company (AUMTCO), the private sector (Female Drivers Association of Nigeria, National Association of Women Taxi Owners, Abuja Transport Authority, National Union of Road Transport Workers, National Association of Road Transport Owners), and men, women and youth representatives of the study communities. The CCG thus provided a platform for a wide range of stakeholders to help shape the entire research and dissemination process. They provided valuable advice and project support from the first meeting, helping with the selection of project sites, identifying other stakeholders and pointing to relevant policy documents. In subsequent meetings they helped in the analysis and interpretation of emerging findings from their diverse perspectives, provided support in the dissemination of findings and explored options for the application of the findings, including selection of potential follow-on pilot interventions with our NGO partner. The final CCG brought together a total of 36 attendees, with representation from across the transport sector and five of the six peer researchers.

In the CCG meetings, peer researchers presented their evidence confidently, whether in Hausa or English, and said they felt that the CCG members valued their contributions: *'I was delighted to have been given an audience'; 'I gained a lot...like getting to know the public relation officer of the Road Safety Commission and the representative of the transport authority';* The relationships in Abuja built over the duration of the project have extended beyond the life span of the research such that there are ongoing discussions on promoting the findings to build a women's transport agenda nationally. In particular, this focuses on issues of discrimination, extortion and harassment of women and the absence of feedback and reporting opportunities.

Local context seems to have been favourable in promoting an overall positive view of the engagement from all participants in Abuja: not least the fact that the Federal Minister of Transportation at the time of our research was a woman keen to promote women's engagement in the sector. She invited the team to her office at an early point in the project and sent her Personal Assistant to the final project CCG. This interaction subsequently led to an invitation for a senior academic from our team to

join a formal working group, the Federal Ministry of Transport Office's Gender Inclusion in Transport Workstream (part of the Road Transport Transformation Programme). As a member of that team, she felt she was able to draw on our project findings to make a contribution towards reshaping the national transport programme (though following a change of minister, such that all leading ministry staff now appear to be male, the interest in gender issues looks to have waned). Within Abuja, it was possible to build two local intervention pilot projects, one with women transport users (round safer travel by motorcycle taxi) which benefitted from peer research team support, and from their research findings which highlighted personal safety and security as a priority constraint to public transport use on the part of women users. We produced a film short (in Hausa and English) directed at improving the safety of women users of motorcycle taxis and this was shown first to women from the study communities, then to 300 female students from 3 northern Nigerian universities (many of whom are regular users of this mode). This brought stronger project buy-in from the Federal Road Safety Commission, whose staff then led workshop discussions. However, our efforts to get the film adopted more widely by the Commission are still in progress. A second study was developed through project engagement with the parastatal AUMTCO (the city's main bus company). This not only brought them into our CCGs as active participants in debates around service provision, but also encouraged them to work with us to develop a Transport Management training for 40 of their women administrators and ticket collectors. Their General Manager attended every training session and AUMTCO continues to engage with project staff: 9 women had been promoted as a result of the training by early 2023.

3.2. Tunis

In Tunis there were three City Consultative Group meetings over the course of the project. The first two CCG meetings took place as scheduled in 2019 but the COVID pandemic and associated lockdowns in Tunis made it impossible to convene further meetings until the final project meeting in March 2022. As in Abuja, a wide range of potential stakeholders were invited from the transport sector, from the Ministry of Transport, civil society organisations (including women's organisations, local activist groups and transport users), transport workers' unions and transport associations. Numbers of participants varied, with all peer researchers attending the first two meetings but only three managing to attend the final meeting. In Tunis, stakeholder interest began quite positively (as in Abuja), but numbers were reduced in the second meeting and in the final meeting only 2 individuals attended who had not been part of the original project team.[2] However, we were greatly supported throughout by a woman engineer Director of Transport for one Governorate of the City (see below).

In the first CCG meeting in June 2019, our peer researchers were encouraged to take a prominent role. Two of the peer researchers (both with reasonable English/French fluency) were particularly vocal, afterwards expressing their appreciation of being invited to play a leading role in discussions with people who would normally be inaccessible to them. Male stakeholder representatives present at the meeting expressed what seemed to be genuine surprise at the scale of GBV being reported, the lack of safety and security felt by our peer researchers when traveling, and by the scale of their dissatisfaction with the transport system. Female stakeholder participants said they were unsurprised but made little further comment. While welcoming and acknowledging the weaknesses of the system, including particular issues round poor financing, male participants from the Transport Ministry and Association of Traffic Controllers were at times defensive and made a number of

comments about the 'inevitable' gendering of transport employment and experiences given the prevailing cultural norms of their country. After the event, the peer researchers expressed their pleasure and surprise at being given the floor to speak to people with some degree of power over the transport system.

Fewer stakeholders turned up for the second CCG meeting, partly because there was a massive rainstorm that morning which dramatically impacted traffic circulation. The profile had also changed with a reduced number of government/quasi-government representatives, but more individuals from interested CSOs. One important development was that the woman Director of Transport (introduced above) had by now committed to the project. She subsequently proved very important to delivery of the user skills pilot intervention training led by our NGO collaborators in Tunis, and attended the project's final conference in South Africa. Around the coffee breaks and before and after CCGs, she engaged fully with the peer researchers, who found her an inspiring and responsive role model. There was some inconsistency in the nature of the participation of peer researchers in the Tunis project. Some gained employment during the course of the project and became less engaged but still mentioned, on a number of occasions, how working with the project had given them skills and confidence they would otherwise not have had. Sadly, although the project team felt strongly that the peer researchers did gain significant experience from their participation, it was also evident that stakeholders in Tunis – even when expressing interest in meeting them – seemed to have little interest in direct engagement with them. Once formal sessions were over the peer researchers would huddle in a corner, possibly talking with some of the female professional participants, but the male professional participants would engage either with each other, with any more senior female professional participants, or with the UK research team. Issues of gender and seniority remain very significant in Tunisian culture and consequently made engagement across the peer researcher/professional divide much harder than in the Abuja context.

COVID had a far bigger impact in Tunis than Abuja. Moreover, the final Tunis CCG was held in advance of an election. Everyone expected a change of government at a time when the entire country was in a profound political and economic crisis. Ministry of Transport staff had limited incentive to participate in the pilot interventions partly due to competing priorities during the pandemic and the project had lost traction during this period. In addition, initially, potential funding opportunities seem to have attracted organisations and individuals (in the Tunisian context where there is little access to public funding). Once it was known that we did not have any funding to offer the transport sector, and that the employment skills training intervention was for female employees, interest in the project waned: unsurprising perhaps in such a male-centred environment. Incentives were clearly insufficient to keep stakeholders engaged for the full duration of the project. It is thus difficult to assess, in the Tunis context, what the legacy of the project will be. Had our peer research programme been one foundational element in a large-scale Urban Living Lab, it is likely that stakeholder retention would have been much greater, especially if this offered the potential for local stakeholders such as senior civil servants and local NGO leaders to access the networks of powerful international institutions.

3.3. Cape Town: Peer researcher study with young women

Peer research training in Cape Town occurred later than in Tunis and Abuja, due to contractual issues. The first introductory meeting brought together the research team, other academics, civil society and city officials. While there was a definite recognition of the challenges of young women in the transport space, and thus of the value of the study, there was a tentativeness to the conversation as stakeholders tried to ascertain how the new study would fit alongside of their own work. An in-person CCG meeting was organised in October 2019 at the university, and allowed for a first, in-depth engagement with the research questions and

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[2] It is important to note that the political environment in Tunis was very unstable at this time, making this kind of engagement a low priority for many potential stakeholders and focusing their minds on short-term activities, not long-term planning horizons.

proposed methodology by members from the transport sector, government officials, NGO staff and other researchers. The existence of a gender bias in the transport sector was acknowledged, and the need for accurate, reliable data was emphasised in order to help inform policy development and implementation.

Our peer researchers – all Xhosa - joined this CCG meeting but their findings were presented on their behalf, by the (Xhosa) woman Research Assistant who had been supporting their work. The peer researchers did not feel comfortable to contribute directly, probably because of language barriers but perhaps also because of the racial composition of the group in attendance. This included a substantial number of white professionals, a group with whom the younger peer researchers had probably had little prior contact - a legacy of continued inequalities in this post-apartheid society.

A review meeting with the peer researchers (run by the UK principal investigator, directly after the CCG) nevertheless indicated that the young women were impressed by the level of engagement of CCG members with the findings that had been presented on their behalf, albeit also somewhat intimidated by that interest:

'Now this is serious – when they (CCG members) come from all these companies. (Probe: how did you feel at the meeting?) I felt OK. I didn't need to say more – all the points were raised. I'm fine about the next (meetings) because this is a big issue nationally -now I know – all over the world. So I need to continue being part and parcel of making some change.' A second peer researcher merely confirmed *'I would have commented if needed to.'*

Sadly, there was no opportunity for the peer researchers to participate in a second such meeting. The pandemic delayed the second CCG in Cape Town until July 2021, and this was organised online due to lingering COVID travel restrictions. By this time, our Cape Town peer researchers had dispersed to rural Eastern Cape, most were uncontactable and none of those available had access to a personal computer to join the meeting. Nor could they join the meetings on their mobile phones, lacking the funds to purchase the requisite airtime to buy data. When we were able to transfer funds to purchase airtime, there were still difficulties in terms of stable connections/power cuts.

Although meeting attendance was down to just a handful of people at the second CCG, there was an in-depth engagement with the topics presented: the lack of safety for young women, when walking, and when taking public transport, and the fact that our findings corroborated those of other studies conducted previously. The difficulty of encouraging young women into transport-related employment was unpacked further as well, with an interest to explore curriculum development. While both fellow academics and some policy makers were happy to connect to brainstorm possibilities for improving women's travel safety and security going forward, little actual translation of the intentions into policy and implementation looked feasible.

Fortuitously, in March 2022 we were able to run a final CCG, this time with significant contributions from one of our original peer researchers who had continued to work with us through the pandemic and the (male) Research Assistant who had taken over from our previous female Research Assistant. Sadly, however, our academic collaborator from the University of Cape Town had had to withdraw due to illness. The meeting brought together a wider range of participants than had been involved in earlier CCGs, including from the South African National Taxi Council (SANTACO) Women's Desk and the NGO Sonke Gender Justice. They had become active participants in the project as a consequence of two pilot intervention studies our NGO partner had been able to develop, based on the early peer researcher findings. The partnership with SANTACO Women's Desk, which has involved development and application of a Safe Taxi Charter (a context-specific guiding document detailing obligations of the transport provider and rights of commuters, with information on where and how to report instances of gender-based violence) is still ongoing, but, to date, nine minibus taxi associations have adopted the charter and there are plans to extend the charter across Western Cape. SANTACO Women have been extremely positive about maintaining collaboration with project staff which they

see as advantageous in their ongoing negotiations with the male SANTACO leadership.

In Cape Town, engagement in the women's study in periods between CCGs by the peer research team was clearly severely constrained by the pandemic, but other factors complicated matters further, including a change in key personnel that rendered continuity more difficult. Continuing racial inequalities in this post-apartheid era may have also been a barrier to further engagement for many. Racial inequality extends beyond skin colour and language barriers to factors such as the continued spatial segregation that automatically meant that peer researchers would need to travel further to get to the university for a CCG, with the same unreliable transport we were trying to assess. Many of these young women had family ties back in the Eastern Cape and they therefore travelled back to access and provide additional support during the pandemic, as soon as they were allowed to (i.e. after the full lockdown, during which deprivation skyrocketed). Even when the full lockdown was lifted, people were not yet allowed on public transport and travel between provinces was severely restricted for a while. As soon as travel was allowed, traveling home in order to share resources was a survival mechanism. Nevertheless, continuing engagement with SANTACO Women's Desk to promote the taxi charter, as noted above, has been particularly productive in terms of building capacity towards improving treatment of women passengers.

Fortunately, the one female peer researcher who remained in close contact with the project throughout was not only able to support the concluding phase of that study, but also, together with our young male Research Assistant, helped set up the small study that ensued with young men. This was developed in direct response to project findings around women's concerns for the safety of their boyfriends and husbands in the same neighbourhoods.

3.4. Cape Town: Peer researcher study with young men

In Cape Town, for the project with young men, there was a single combined stakeholder meeting that brought together peer researchers and research findings across our two study sites. Following the project design, the workshop was intended to bring together project and peer researchers to meet with relevant local stakeholders including community youth organisations, informal transport associations, transport companies, NGOs, local government, unions, law enforcement organisations, among others, to discuss the potential implications of project findings for further action, policy, and practice. Central to this aim was having peer researchers themselves deliver findings to the assembled stakeholder group. In addition to presenting a summary of findings from peer researcher interviews with community members, an important aspect of the workshop was to allow peer researchers to provide reflections from their own mobility diaries. Each of the six Cape Town peer researchers presented a sample entry from the 10 mobility diary entries that they had submitted as part of the project field work. Their reflections demonstrated the everyday realities of walking in low-income areas of Cape Town—often with fear and trepidation, but sometimes with pleasure and joy. The stories that emerged detail, in an embodied and often emotion-filled sense, what transport planners and city officials may overlook. They highlight the challenges of long distances between home and transport interchanges; long waits for transport; the temporalities of day/night; periods of electricity cuts that bring darkness; bad weather; and hazards for pedestrians from dangerous driving.

It was fortuitous that the Cape Town Stakeholder Workshop was planned for the month of October which is 'Transport Month' in South Africa. As a result, project researchers quickly gained the interest of local authorities in the City of Cape Town—particularly representatives of the City of Cape Town's Urban Mobility Directorate. At the same time, some peer researchers noted in their reflections that local government officials were at pains to respond to many of the peer researcher's inputs with statistics of what the City government had accomplished and how other spheres of government had failed. There was a sense of politicking rather

than finding a way forward. Nevertheless, the workshop provided an opportunity to discuss findings and their implication in light of identified and potential future challenges and opportunities in the study areas. Following a recent further funding approval, we are now in a position to build on this work, supported by strong interest from community-based NGOs.

4. Reflections from the INGO partner perspective on intervention work in the studies with young women

As an implementing partner tasked with delivering small pilot interventions based on the research findings which emerged from the three-country study with young women, the priority concerns affecting their access to public transport, both as passengers and as employees, were further contextualised. This involved developing interventions that fitted with the specific conditions of each city's local geography (culture, political economy, transportation organisation and demographics of the city concerned) while drawing on evidence about the marginalised groups' travel experiences that our peer research methodology had brough to the fore. The peer research method gave the project team better access to local knowledge, as well as critical insight into the day-to-day experiences of young women and men in both projects. At the same time, the project team made every effort to treat these projects as an opportunity for peer researchers to learn new research skills, and as their confidence grew, positioned them as experts within the team. The opportunity to learn from peer researchers has been critical to the success of the projects that were implemented and as an approach will be adopted by our organisation where possible in future.

5. Conclusion

It is important at this point to reflect on the way our studies have spanned diverse urban geographies of three African cities. Each city has its unique transport infrastructures, governance systems and gendered mediation of mobility.[3] However, the peer research method, as the foundation of Urban Living Lab, provides a consistent platform to explore the experiences of young men and women as they negotiate their respective, unique urban contexts. Thus, while our research approach differed very little across Abuja, Cape Town and Tunis, this is not to deny the influence of geographical and transport contexts. Rather, it points to the value of the method in supporting both in-depth work with marginalised groups in individual spatial contexts while promoting comparative work and associated learning across the continent. From a transport geography perspective, the peer research method thus helps to highlight the differences across our three cities, while also allowing us to draw conclusions about the nature of gendered mobility more broadly.

More importantly still, the method has enormous practical value for city planning through its basic foundations, set as they are in a pro-active working alliance between academics, practitioners and especially marginalised groups. It is nearly a decade since Parnell and Pieterse (2016) argued that the turnover of politicians and staff in city transport departments in Africa is such that, if research agendas are to be built around local research questions and findings, a firm alliance is needed between academics, embedded in city institutions, working together with NGOs, local government and politicians. However, to be truly grounded in local issues, we argue that transport users (particularly those who feel marginalised and alienated from city bureaucracies) need to be brought directly into such engagements as active participants, not just bystanders: this is where peer research comes into the equation, so that user views can be built from a sound base of direct evidence, not hearsay (Porter et al., 2020). Inserting this dimension is by no means simple, since merely calling in community users without adequate

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[3] Comparative work across the three study cities detailing these themes is available in our earlier publications.

preparation (i.e. armoured with carefully researched, detailed evidence from those communities) may merely confirm transport planners in the view that users do not understand government capacities for improving transport infrastructure.

Our reflections on peer research and the engagements between peer researchers, urban planners and other city transport actors outlined above, point to some key elements that can support or destroy a potentially productive collaboration. Some features of the projects certainly aided their success. In particular, the environment of high youth unemployment has been an important incentive in peer researcher participation in all locations. Peer researchers were awarded certificates to confirm their participation in the initial training session, but also for the subsequent independent research they conducted and associated participation at City Consultative Group meetings. This was an important asset for them – in an environment with very high (youth) unemployment, formal recognition of any training or participation in professional activities is considered very important.

Other features of the local policy and resource context in the low-income neighbourhoods of each city where our work was focused also promoted peer researcher commitment. The transport and broader resource deficiencies of their own neighbourhoods proved to be a significant incentive to peer researchers for building a careful inventory of local constraints. The desire to effect change thus energized the collection and circulation of each city's lived transport geographies and mobilized it towards change with policy makers.

At the same time, however, city-level resource constraints have limited the potential of city transport planners and practitioners to respond to the findings presented to them by peer researchers in the CCG meetings: this includes seemingly intractable city-wide traffic problems, and a mind-set among transport professionals that in some cases tends towards the technocratic, shunning engagement with the public. In the case of the women peer researchers, the overwhelmingly male domination of the whole transport sector, through to senior transport engineers, is an additional barrier to progress.

When COVID hit, the repercussions in the women's study extended across all project elements and actors. On the one hand we were able to continue to provide a small income to our young women peer researchers (most of whom had completed all contracted work, apart from occasional CCG attendance); their mobility diaries presented a substantial unanticipated and much-valued project resource in the pandemic. On the other hand, contact with city authority and transport staff was immediately shut off in all three cities, since the transport sector was central to efforts to constrain the spread of infection. When conditions stabilised and meetings went online, professional transport staff had access to personal computers and Wi-Fi; as noted above, peer researchers were mostly unable to join online meetings and even when we were able to transfer funds to purchase airtime, there were still difficulties regarding stable connections/power cuts. This interruption to engagement with transport professionals in the women's study inevitably reduced the potential for significant impact, despite the project spanning a four-year period.

Personalities and positionality have also come into play, not only in terms of engagement with peer researchers but also between peer researchers, transport professionals and the wider community of transport stakeholders. In project interactions with (mostly male) transport professionals and other relatively powerful transport stakeholders we have found engagement with some individuals enormously positive, while others have clearly found our approach too radical. Attendance at more than one CCG/stakeholder meeting (where peer researchers are presented as key players) has often signalled openness to further engagement: where possible we then worked with these stakeholders in the women's study to build pilot interventions shaped by the peer research findings and CCG discussions. Having (albeit modest) funds for pilot interventions certainly helped generate interest and commitment from stakeholders.

Attitudinal change among professionals takes time: we were

particularly disappointed by the lack of buy-in from the majority of transport professionals in Tunis noted earlier, while at the same time greatly heartened by the commitment of the senior woman engineer in Tunis who took such an active part in the study. Reflecting on the project, in a recent communication she emphasised how much the project had helped her with her work in the city, while bemoaning the continuing difficulties women face working in the transport sector. Overall, she finds conditions there depressing: "Regarding regulations in the transportation sector, there is no discrimination between women and men, but in practice, this sector remains dominated by men, primarily for socio-cultural reasons and subsequently for economic and financial reasons." (pers comm 31/01/ 2025). A rare senior woman protagonist advocating for change in the male-dominated transport sector in Tunis she sees little hope of progress in the short term. In Abuja and Cape Town we are more hopeful for some lasting influence from the projects. In Abuja highlights have included engagement with the parastatal AUMTCO and the Federal Road Safety Commission. In Cape Town we continue to work with SANTACO Women's Desk members towards improvements in women's travel safety across the city.

So far as the peer research component is concerned, in each country, the fact that the majority of the study team in the women's project were female and women were clearly in charge seems to have helped build confidence within the all-female peer researcher teams. This made interactions more collaborative, equal, and non-threatening. We could discuss culturally sensitive issues like men masturbating on trains, groping, the awkwardness around dress choice etc., with relative ease and sympathy – and where women transport professionals joining the CCG were sufficiently senior, it was possible to move these issues into a more central place in CCG discussions. This worked to some degree in both Abuja and Tunis. However, in Cape Town, the post-apartheid context imposed another layer of constraint among women peer researchers that would have taken time to disperse, and the attempt to build a more consultative approach was almost entirely disrupted by the pandemic; thus only one woman of the six peer researchers we had started with continued with the project into the post-pandemic phase.

In the (post-pandemic) study with young male peer researchers in Cape Town, conditions have been more favourable, encouraging all six peer researchers to stay with the project. However, the fact that this was a pilot, with very modest funding (spanning only one year and one stakeholder meeting), limited engagement with city transport authorities, which frustrated the whole team.[4] The political context added further complexities, given the imminence of national elections in South Africa at the time of the stakeholder meeting (a constraint that also affected final stages of the work in Tunis). In the work with women peer researchers, having funding to pursue a lengthier study, with some funds ring-fenced for CCG meetings and pilot interventions that would help address issues raised by the women's findings, certainly assisted engagement between academic researchers, peer researchers and city transport authorities.

To conclude, peer research takes time and commitment from all concerned, but the direct field evidence that the young peer researchers brought to the table in the projects we discuss has brought to the fore some rare insights. These insights encompass not only the transport and mobility challenges of the low-income neighbourhoods where the peer researchers reside, but also a more nuanced understanding of the wider geographies of the individual cities where they are located. The engagements between peer researchers, transport professionals and other stakeholders at the CCG/stakeholder meetings has added further texture. There have been small individual/partial wins in terms of changing attitudes, and practical responses among decision makers and influencers as work with the peer researchers has progressed: from this perspective, pilot interventions in Abuja and Cape Town in the women's

study have been particularly productive. Ultimately, peer researcher insights seem to have generated a shift in the attitude towards engagement with marginalised communities among those (arguably braver) transport professionals who participated in the studies, though we would hesitate to claim any significant impact on professional practice (except within our collaborating NGO). We accept that the efforts made to embed transport decision-makers and influencers in the projects reported in this paper have been variable and, overall, not quite so significant as we might have hoped. Nevertheless, we argue that within an Urban Living Labs context, if work with peer researchers is introduced at a foundational stage, it should be feasible to achieve a level of participatory engagement that is difficult to attain through other means and thus significantly promote long-term, sustainable change.

However, as we also demonstrated in this paper, the actual patterns and potentialities of engagement between peer researchers and city transport actors (practitioners, local government, civil society) that might promote a more socially just travel environment are strongly shaped by a range of locally specific factors, extending from resource and policy contexts set within distinctive local urban geographies to the personalities and positionality of all actors involved.

Careful reflection, on a regular, iterative basis would be essential to ensure that peer researchers brought into Urban Living Lab settings were able to play a full, sustained role.

CRediT authorship contribution statement

Gina Porter: Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Bradley Rink:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Investigation, Formal analysis, Data curation. **Emma Murphy:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Investigation, Formal analysis, Data curation. **Fatima Adamu:** Writing – review & editing, Project administration, Investigation, Formal analysis, Data curation. **Plangsat Bitrus Dayil:** Writing – review & editing, Investigation, Formal analysis, Data curation. **Sam Clark:** Writing – review & editing, Writing – original draft, Supervision, Investigation, Formal analysis, Data curation. **Bulelani Maskiti:** Writing – review & editing, Investigation, Formal analysis, Data curation. **Claire Dungey:** Writing – review & editing, Investigation, Formal analysis, Data curation. **Ariane de Lannoy:** Writing – review & editing, Supervision, Investigation, Data curation.

Declaration of competing interest

We have nothing to declare.

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Data availability

Data will be made available on request.

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[4] Recently we have acquired funding to build on the community-focused element of this work.

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