



Project: Mapping unequal accessibility to socioeconomic and cultural opportunities in informal urban settlements across two Sub- Sahara African Cities

Grant Number: EP-2021-MAC-03

Preliminary Stakeholder Report

Start date: 10 January 2022

Duration: 12 months

Submitted to: Transport & mobility stakeholders in Ghana & Tanzania

Prepared by: KNUST, UDSM & UA

Date: 17 January 2023

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EXECUTIVE SUMMARY

The project, *Mapping unequal accessibility to socioeconomic and cultural opportunities in informal urban settlements across two sub-Saharan African Cities*, funded by the Volvo Research and Education Foundations (VREF) investigates the ways residents in Informal Urban Communities (IUCs) are able to access basic daily activities. The project is being carried out by researchers from the Transport Research and Education Centre Kumasi (TRECK), Kwame Nkrumah University of Science and Technology, Ghana; the University of Dar es Salaam, Dar es Salaam, Tanzania; and the Alabama Transportation Institute, University of Alabama, USA. The project addressed the research question of “*how do informal urban communities perceive, experience, and use transport to access daily activities?*” A comparative study of selected IUCs in Kumasi, Ghana and Dar es Salaam, Tanzania based on predefined criteria was carried out to measure accessibility to activities in its perceived and objective forms. The project undertook stakeholder consultation, qualitative survey of local residents’ perspectives, comprehensive analysis, and synthesis of findings. Accordingly, this report presents preliminary findings from this project to stakeholders towards compiling their feedback and further refinement of the findings.

The findings of the study show that local stakeholders have a broad and in-depth understanding of the issues of unequal accessibility in the selected communities in both countries. However, there is a lack of coordination among the different stakeholders or there exist no platforms for coordination. This illustrates the need for coordination by local governments to take advantage of this local knowledge and embrace multiplicity of perspectives. Consistently we observed that across both countries and across the selected activities, the objective travel time was found to underestimate the user-reported (or perceived) travel time. The demonstrated difference between objective and perceived travel times indicate the need to promote continual performance monitoring of transport and mobility infrastructure to better address user and community needs. The comparative analysis employed in this study illustrates an exemplary approach to provide a scorecard-type assessment towards scoring the performance of SSA cities in improving access to their most vulnerable populations.

ACKNOWLEDGEMENTS

This work was supported by the Volvo Research and Educational Foundations (VREF) under the Mobility and Access in African Cities (MAC) [grant number: EP-2021-MAC-03]. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Volvo Research and Educational Foundations.

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ABBREVIATIONS AND ACRONYMS

sub-Sahara Africa	SSA
Volvo Research and Educational Foundations	VREF
Mobility and Access in African Cities	MAC
Informal Urban Communities	IUC
Perceived Accessibility	PAC
Progressive Transport Owners' Association	PROTOA
Ghana Private Roads Transport Union	GPRTU
Ghana Federation of Disability organization	GFD
Tanzania National Roads Agency	TANROADS
Tanzania Rural and Urban Road Agency	TARURA
Dar Rapid Transit	DART
Standard deviation	Std.
Skewness	Sk
Kurtosis	Kur

1. Introduction and Project Overview

1.1. *Project Description*

Access to socioeconomic and cultural opportunities in sub-Saharan African (SSA) cities is often achieved through shared mobility, usually in the form of paratransit, motorized two- and three-wheelers. While accessibility is a widespread challenge in SSA cities, the problem is more heightened in Informal Urban Communities (IUCs) and for socially differentiated groups such as care-givers, women, children, people with disabilities, and unemployed. IUCs constitute a significant portion of most SSA cities, where they are often associated with lower-quality housing, low income populations, low car ownership, and poor mobility infrastructure. For equitable and targeted intervention, it is critical to interrogate the perception of how residents in IUCs undertake and experience mobility when accessing socioeconomic and cultural opportunities. Accordingly, this project sought to take advantage of accessibility in its perceived and objective forms to develop a composite accessibility measure for IUCs in two SSA cities: Kumasi in Ghana, and Dar es Salaam in Tanzania. The perceived accessibility was estimated by using the Perceived Accessibility scale through a comprehensive qualitative survey including questionnaire, and stakeholder consultation. The objective accessibility captured travel distances and times, and the physical characteristics of the urban environment and existing transport modes. The findings will facilitate equitable and targeted intervention towards enhancing access to socioeconomic and cultural opportunities for all persons in IUCs in SSA cities.

1.2. *Project objectives*

This project primarily synthesized the knowledge on, and developed a framework towards improving accessibility to social, economic and cultural opportunities for informal urban settlement dwellers. This was facilitated through a comparative analysis of accessibility scorecard measuring the extent to which land-use, transport systems and contextual determinants are enabling informal urban settlement dwellers to reach socioeconomic and cultural opportunities in Kumasi and Dar es Salaam. The project focused on the following research questions.

- What is the state of knowledge on the accessibility to social, economic and cultural opportunities of informal urban settlement dwellers in SSA cities?
- In what ways can paratransit, motorcycle and tricycle taxis be modified to facilitate accessibility for informal urban settlement dwellers in Sub-Sahara African cities?
- How can mobility-based urban morphologies be developed and harnessed to improve equity and accessibility to opportunities for socially differentiated groups towards better livelihood and community welfare in SSA cities?

In addition, the following research questions were considered.

- How does unequal accessibility to opportunities in informal urban settlements in the selected cities affect various population groups (children, women, caregivers, etc.), and how does it impact their livelihood and welfare?
- How do users' perception of accessibility to opportunities affect their preferences or choices, and how might that be integrated into mobility planning and decision making?
- How are users' preferences influenced by urban form and current mobility and accessibility measures? Conversely, how can current planning, accessibility measures and urban morphology be better informed by users' perspectives on accessibility?
- What can be learned from the analysis of each individual city as well as the comparative analyses of the two that can be replicated to other African cities?

1.3. Process and Methodology

1.3.1. Study communities

The study cities, Kumasi shown in Figure 1, and Dar es Salaam shown in Figure 2 present two areas with distinct local and different transport contexts. In Kumasi, the selected study communities are Sawaba, Aboabo, Asawase, Anloga, and TUC-Dakodwon. The communities Sawaba, Aboabo, Asawase are in Asokore Mampong municipal where they all share boundaries with Aboabo in the middle. These three communities are associated with high usage of motorized three-wheeler taxis; limited paratransit usage; deteriorated access roads with narrow

width and un-tarred roadways; encroachment on the right of way of roads by parked trucks and uncontrolled development; high migrant populations usually from northern area of Ghana where motorized two- and three-wheelers are predominant; high road traffic congestion leading to long queues; lower-quality housing, overcrowded areas; and low car ownership.

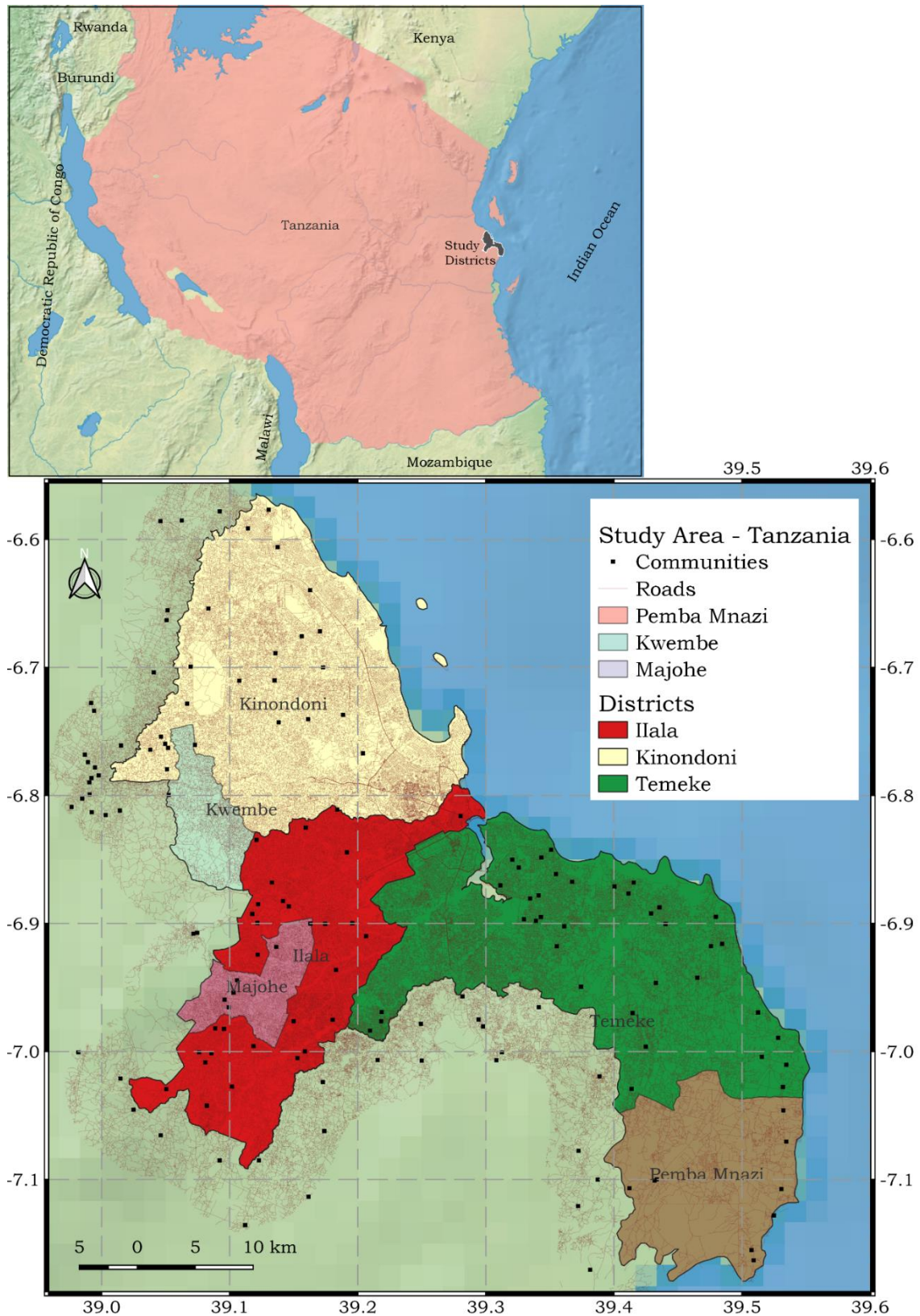


Figure 1. Study communities (Asawase, Aboabo, Sawaba, Anloga, Dakodwon TUC) in Kumasi, Ghana.

The community in Anloga is located in Oforikrom municipal where it is associated with high usage of Troto (mini-bus); a paratransit terminal; a market; deteriorated access roads with very narrow width; encroachment on the right of way of roads; high migrant populations; high-dense

settlements; high road traffic congestion; lower-quality housing and low car ownership. The community is bounded in the west by the western by-pass from Anloga Junction to Asokwa, which blocks a direct access to the community. TUC-Dakodwon is a tiny IUC located in the Kumasi Metropolis where it is associated with a taxi terminal, no through access, high migrant population; high-dense settlements; lower-quality housing and low car ownership. Overall, all the study communities in Kumasi have contiguous road connections with limited access at some locations. Most of the road networks are inaccessible by automobile or are much deteriorated such that only operators of two and three wheelers ply them.

In Dar es Salaam, the study communities are Majohe in Ilala District, Kwembe in Ubungo District and Pemba Mnazi in Kigamboni District. Majohe ward has a population density of 2250 persons per square kilometer, is associated with high usage of motorized three-wheelers, motorcycles and worn-out paratransit mini-buses that operate with low reliability, and crossed by a commuter rail network which offers services early morning and evening peak-hours only. Kwembe ward has a population density of 1504 persons per square kilometer, is characterized with steep slopes terrain and shrubs separating streets. Among several human activities, pastoralist activities are very common in Kwembe ward. Motorized tricycles (commonly known as Bhajaj) and powered-two wheelers (i.e., Bodaboda) are the only means of transport that connect Kwembe ward with other destinations and major routes with paratransit mini-buses. Pemba Mnazi ward has a population density of 73 persons per square kilometer is just at the shore of the Indian Ocean, is characterized by communities that are predominantly engaged in fisheries, pastoral and farming activities. Paratransit mini-bus routes are accessible only in the peripheral parts of the ward. Commuters on the inside parts of the ward only use *Bodaboda* and informal taxis to get around. The ward contains poor roads, swamp areas and people live in lower-quality housing.



1.3.2. Project activities carried out in Ghana and Tanzania

1.3.2.1. Stakeholder consultation

This comparative study surveyed and synthesized stakeholder perspectives on transport access in Kumasi in Ghana and Dar es Salaam in Tanzania. Two separate stakeholder consultation workshops were organized in both countries to collect data. The in-person stakeholder consultation workshops were organized in Kumasi on 13th April 2022, and in Dar es Salaam on 10th June 2022. The data sets were collected using a semi-structured interview guide, where they were compiled electronically, and analyzed using descriptive statistics, and thematic analysis.

1.3.2.2. Questionnaire survey in study communities

Comprehensive questionnaire survey was carried out in all study communities. In Kumasi, Ghana a total of 600 participants were surveyed, whereas 1189 participants were used in Dar es Salaam, Tanzania. In both cities, the sample sizes were disaggregated by the proportion of the population in each study community. The questionnaire instrument was semi-structured focusing on the following key themes: demographic information; access to selected activities; perceived accessibility; perception of neighborhood characteristics; and perception of local transport services.

1.3.3. Estimation of perceived access to socioeconomic activities

The scale for Perceived Accessibility (PAC) is an aggregate measure of perceived accessibility developed for use in transportation. The PAC consist of four (4) items: Ease of Access, Comfortability, Success, Satisfaction, that together were designed to measure the overall perceived accessibility of daily travel, regardless of transport mode, or combination of modes. The PAC is estimated by using the procedures outlined in Table 1, and the corresponding statistics in Table 2. For access to each socioeconomic activity destination (i.e. work place, shopping (market), healthcare, school, place of worship, family visit), we performed analysis to determine information in Table 1 and Table 2, to establish ease of access, comfortability, success, and satisfaction of the trip.

Table 1. Scale for Perceived Accessibility – PAC

Likert Scale: Level of Agreement	Likert Scale: Level Assigned	Accessibility Item				Average Value
		Ease of Access	Comfortability	Success	Satisfaction	
Strongly disagree	1					
Disagree	2					
Neutral	3					
Agree	4					
Strongly agree	5					

Table 2. Descriptive Statistics, Correlations, Skewness (Sk), Kurtosis (Kur) and change in Cronbach's alpha (α) for 4 items.

Items	1	2	3	4	Mean	Std. Dev.	α	Sk	Kur
1. Ease of Access	1.00	--	--	--					
2. Comfortability	0.00	1.00	--	--					
3. Success	0.00	0.00	1.00	--					
4. Satisfaction	0.00	0.00	0.00	1.00					

1.3.4. Estimation of objective access to socioeconomic activities

The objective access to the selected activities was based on the travel time spent on the shortest travel path on a road network from origin to destination using a car under typical traffic conditions or walking for cases which apply. The origin (e.g., home) and destination (e.g., market place) locations were obtained directly from the questionnaire data. These place names were manually geocoded to obtain the coordinate values for each destination. The coordinate values for origin and destination pairs were supplied as input to estimate the travel distance and time. The estimated objective travel times were obtained in minutes, where they were subsequently converted into the five travel codes [1: 0 - 5 mins; 2: 6 - 15 mins; 3: 16 - 30 mins; 4: 31 - 60 mins; 5: >> 60mins]. This conversion allowed for the objective travel time to be consistently compared directly against their corresponding user-reported (or perceived) travel time data.

2. Summary of findings from Kumasi, Ghana

The preliminary findings from Ghana primarily cover initial analysis of the stakeholder consultation, and questionnaire survey. These initial analyses were used to summarize the overall perspective of stakeholders on transport access in IUCs, and the objective and perceived access in these communities.

2.1. Synthesis of stakeholder consultation – Kumasi, Ghana

2.1.1. Stakeholder background and goals

The participating stakeholders who undertook the stakeholder consultation workshop in Kumasi, Ghana are presented in Table 3. The stakeholders included local government authorities, transport agencies, road agencies, law enforcement, paratransit owners and operators, transport unions, and persons with disability groups, and other Civil Society Organizations (CSOs).

Table 3. List of key stakeholders who participated in the stakeholder consultation workshop in Kumasi, Ghana.

Stakeholder list in Kumasi, Ghana
Physical Planning Department of the Kumasi Metropolitan Assembly Asokore Mampong Municipal Assembly National Road Safety Authority Progressive Transport Owners' Association (PROTOA) Department of Feeder Roads Ghana Private Roads Transport Union (GPRTU) Ghana Health Service, Ghana Federation of Disability organization (GFD) Ghana National Fire and Rescue Service Ghana National Fire Service Representatives of 2/3 wheeler vehicles Ghana Police Service Department of Urban Roads

The participating stakeholders at the workshop played a variety of roles at their agencies related to transport and/or accessibility in the selected communities. These included policy and planning, transport operations, transport unions, infrastructure provision, safety and security, health, fire safety and security, user needs, advocacy, regulation and enforcement. The representatives of stakeholders who attended the workshops were broadly categorized into managerial position, operational position, and technical position. The proportion of

stakeholders in managerial positions is about 31%, operational is 50%, and technical is 19%. This indicates the diversity of roles played by the stakeholder representatives at the workshop. However, the proportion of female among the participating stakeholder representations is low; where the female-to-male ratio is about 1:3.

2.1.2. Stakeholder view of the perceived problem

The outcome of the stakeholder consultation workshop showed that the participating stakeholders have a broad and in-depth knowledge of the problem of transport access in the selected communities. Participants were asked about the implications of stakeholder activities when informal urban communities have improved transport accessibility. Some of the leading responses included reduced travel time, enhanced mobility for people and logistics, timely interventions, increased revenue mobilization, among others.

In addition, participating stakeholders were asked about their specific activities which facilitate the access of local residents. The leading responses included the provision of transport services, building and maintenance of road and social amenities, community sensitization and education, enforcement of road traffic offenders, etc. The participants also identified a list of possible causes of accessibility challenges in the selected communities in Kumasi, Ghana. Some of the widely reported factors included inadequate funds for transport infrastructure, on-street parking and trading, traffic congestion, poor planning, lack of coordination between stakeholders, land encroachment, etc. In addition, the stakeholders recommended potential solutions to accessibility challenges in the selected communities. The leading potential solutions included adequate provision of transport infrastructure (roads, bus terminals and stops, pedestrian facilities, road signs, etc.), effective enforcement of transport regulations and penalty for traffic offenders, adequate funds and resource allocation, and proper community planning and implementation for all persons.

2.2. Accessibility to socioeconomic activities – Kumasi, Ghana

2.2.1. Demographic characteristics of study communities

Across the selected communities in Kumasi, Ghana, the survey participants included about 52% female and 48% male. The largest age group is 18-24 years with a proportion of about 27.5 %, whereas the median age group is 25-34 years. The largest education group is

Primary/Junior high school level which has about 34%, with the median education level being Senior high school level. In terms of monthly income, the largest and the median income group are both associated with GHC100-499 (USD 18–84), having a proportion of about 43%. The household size in the selected communities has a median of 4-7 members, being the largest group of about 36%. The number of years the survey participants lived in the selected communities has a median of more than 12 years, bring the largest group of about 50%. Also, the proportion of persons living with young people (less than 18 years) is 70% across all the selected communities.

2.2.2. Perceived access to socioeconomic activities in Kumasi, Ghana

The perceived accessibility measure based on PAC items: Ease of Access, Comfortability, Success, Satisfaction, were measured across the selected study communities for the following activity groups: workplace, healthcare, marketplace, school, place of worship, and family visit. Using the Likert scale the following options were assigned the codes: Strongly disagree [1]; Disagree [2]; Neutral [3]; Agree [4]; and Strongly agree [5]. Across all the study communities, and activity groups, the overall mean obtained for Ease of Access is 3.92; Comfortability is 3.90; Success is 4.15; and Satisfaction is 4.11. These results indicate that the PAC items are mostly close to Agree [4]. That is, the survey participants mostly Agree that their travels to access activities are relatively easy, comfortable, successful, and satisfactory.

In addition, across the selected study communities in Kumasi, Ghana the PAC was specifically measured for the level of access to workplace, healthcare, marketplace, school, place of worship, and family visit. The following are the PAC values for the various activities: workplace is 4.02; healthcare is 3.92; marketplace is 4.03; school is 3.88; place of worship is 4.29; and family visit is 4.13. That is, by differentiating access by specific activity types, the increasing order of perceived accessibility is school, healthcare, workplace, marketplace, family visit, and place of worship. These results indicate that by combining the PAC items: Ease of Access, Comfortability, Success, and Satisfaction the level of access to specific activity groups are mostly close to Agree [4].

2.2.3. Objective access to socioeconomic activities in Kumasi, Ghana

Based on the physical access to the various activity types, the estimated travel distances are presented in Figure 3. The results indicate that the decreasing order of objective access based on travel distance is place of worship, healthcare, marketplace, workplace, family visit, and school.

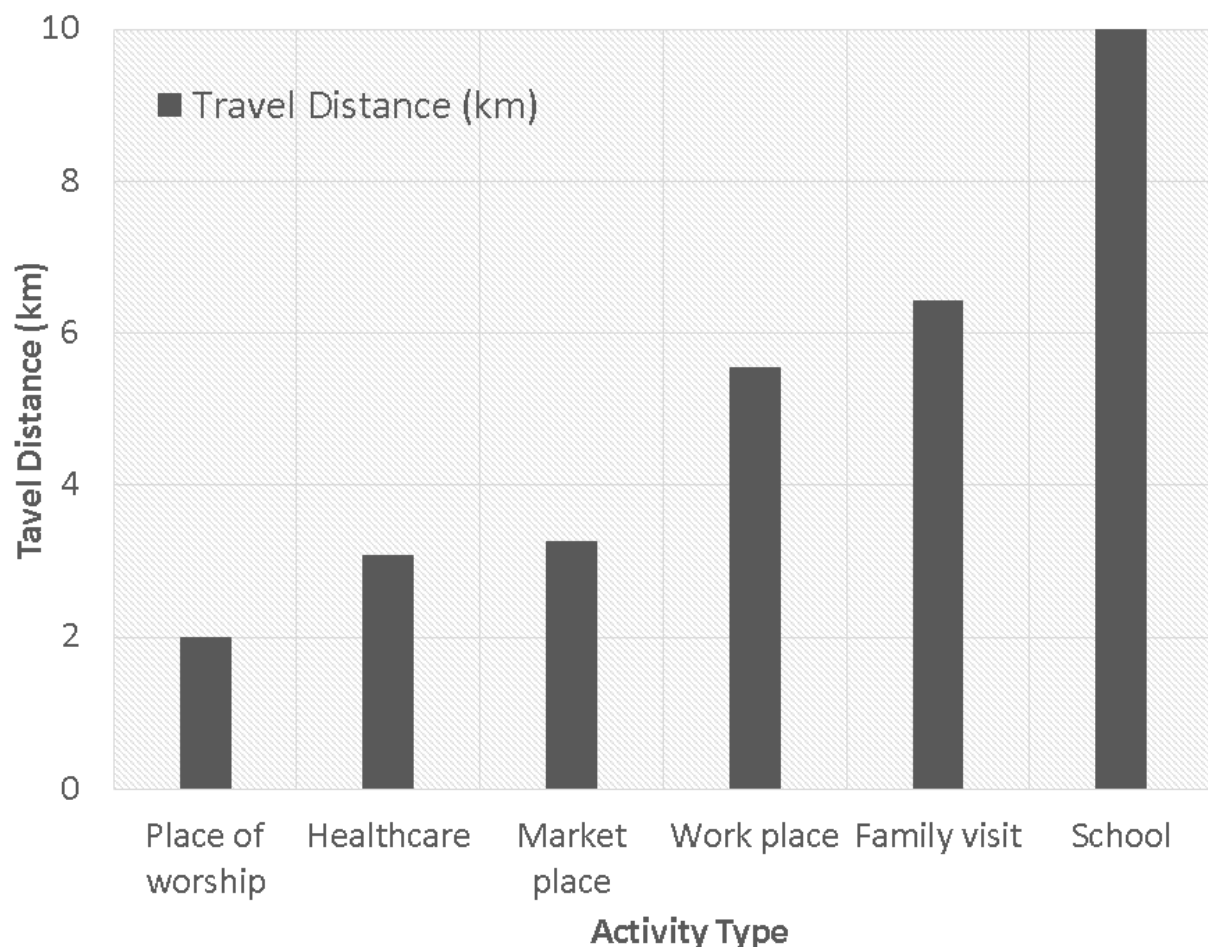


Figure 3. Overall average of objective travel distances for the selected activities in the study communities in Kumasi, Ghana.

2.2.4. Comparison between objective and perceived access in Kumasi, Ghana

Based on the perceived (i.e. user-reported) travel time and the estimated objective access, the two measurements were compared to estimate their differences for the various activity types: workplace, healthcare, marketplace, school, place of worship, and family visit. The estimated objective travel times were converted into travel time codes to match those obtained from the

user-reported case. Both measurements were assigned the travel time codes: 1 for 0 - 5 minutes; 2 for 6 - 15 minutes; 3 for 16 - 30 minutes; 4 for 31 - 60 minutes; and 5 for >> 60 minutes.

For the objective accessibility, the median travel time for all the various activity types is the same which is 1 for 0 - 5 minutes. That is, all the activity types can be accessed within 5 minutes of travel time based on the objective access estimation. For the perceived accessibility, the median travel time change by activity type. Workplace, marketplace, healthcare, and place of worship have the same median travel time of 2 for 6 - 15 minutes, whereas school and family visit have the same median travel time of 3 for 16 - 30 minutes. The results show that the objective accessibility consistently under-estimates the perceived accessibility across all the activity types.

3. Summary of findings from Dar es Salaam, Tanzania

The preliminary findings from Dar es Salaam, Tanzania cover initial analysis of the stakeholder consultation, and questionnaire survey. These initial analyses were used to summarize the overall perspective of stakeholders on transport access in IUCs, and the objective and perceived access in these communities.

3.1. Synthesis of stakeholder consultation – Dar es Salaam, Tanzania

3.1.1. Stakeholder background and goals

The participating stakeholders who undertook the stakeholder consultation workshop in Dar es Salaam, Tanzania are presented in Table 4. The stakeholders included local government authorities, transport agencies, road agencies, law enforcement, paratransit owners and operators, transport unions, persons with disability groups, and other CSOs.

Table 4. List of key stakeholders who participated in the stakeholder consultation workshop in Dar es Salaam, Tanzania.

Stakeholder list in Dar es Salaam, Tanzania
Tanzania National Roads Agency (TANROADS) Dar Rapid Transit (DART Agency) LATRA CCC Majohe Disp Kigamboni Municipal Council Tanzania Rural and Urban Road Agency (TARURA) Fire and Rescue Force Buyuni 1 Primary school, Majohe Primary School at Ilala Municipal University of Dar es Salaam Federation of Paratransit drivers Temeke Municipality Mabwepande Ward Federation of Societies for People with Disabilities Kwembe Ward of the Kigamboni Municipal Council Union of Two-Three wheelers Police Force

The participating stakeholders at the workshop played a variety of roles in their agencies, which were broadly categorized into operational position, managerial position, supervisory position and technical position. The proportion of stakeholders in operational position is 33%, managerial positions is 48%, supervisory position is 9%, and technical is 10%. This indicates

the diversity of roles played by the stakeholder representatives at the workshop. However, the proportion of female among the participating stakeholder representations is low where the female-to-male ratio is about 1:4.

3.1.2. Stakeholder view of the perceived problem in Dar es Salaam, Tanzania

The stakeholder consultation workshop showed that the participating stakeholders have a broad and in-depth knowledge of the problem of transport access in the selected communities. Participants were asked about the implications of stakeholder activities when informal urban communities have improved transport accessibility. Some of the leading responses included enhance safety and injury prevention, reduced transport costs, improved service delivery, improve settlement planning, promote timely interventions, aid fast mobility of residents, among others. In addition, participating stakeholders were asked about their specific activities which facilitate access of local residents. The leading responses included road traffic regulation, land use planning, road maintenance activities, provision of efficient commercial/rapid transport, innovation and research, etc.

The participants also identified a list of possible causes of accessibility challenges in the selected communities in Dar es Salaam, Tanzania. Some of the widely reported factors included inefficient use of land, lack of traffic signals and street lights, poor transport coordination, high traffic congestion, inadequate funds allocation, unplanned/informal settlements, etc. In addition, the stakeholders recommended potential solutions to accessibility challenges in the selected communities. The leading potential solutions included extending the existing BRT lines, construct more roads and bridges, adequate allocation of funds, and efficient planning of settlements.

3.2. Accessibility to socioeconomic activities – Dar es Salaam, Tanzania

3.2.1. Demographic characteristics of study communities

Across the selected communities in Dar es Salaam, the survey participants included about 59% male and 41% female. Most of the participating group was between 25-34 years with a proportion of about 36.6 %. The largest education group is Primary/Junior high school level which has about 42%. In terms of monthly income, the largest group was less than Tshs 200,000 (<< USD 86.0) having a proportion of about 53.8%. The household size in the selected

communities has a median of 4-7 members, being the largest group of about 57.2%. The time taken to bus stop was 6-15minutes with a proportion of 49.3%. The number of years the survey participants lived in the selected communities has a median of 4-6years, being the largest group of about 32.2%. Also, the proportion of persons living with young people (less than 18 years) is 66.4% across all the selected communities.

3.2.2. Perceived access to socioeconomic activities in Dar es Salaam, Tanzania

The perceived accessibility measure based on PAC items: Ease of Access, Comfortability, Success, Satisfaction, were measured across the selected study communities for the following activity groups: workplace, healthcare, marketplace, school, place of worship, and family visit. Using the Likert scale the following options were assigned the codes: Strongly disagree [1]; Disagree [2]; Neutral [3]; Agree [4]; and Strongly agree [5]. Across all the study communities, and activity groups, the overall mean obtained for Ease of Access is 2.81; Comfortability is 2.69; Success is 2.89; and Satisfaction is 2.72. These results indicate that the PAC items are mostly close to Neutral [3]. That is, the survey participants are mostly Neutral that their travel to accessing the selected activities are easy, comfortable, successful, and satisfactory.

In addition, across the selected study communities in Dar es Salaam, the PAC was specifically measured for the level of access to workplace, healthcare, marketplace, school, place of worship, and family visit. The following are the PAC values for the various activities: workplace is 2.78; healthcare is 2.72; marketplace is 2.64; school is 2.69; place of worship is 3.09; and family visit is 2.58. That is, by differentiating access by specific activity types, the increasing order of perceived accessibility is family visit, marketplace, school, healthcare, workplace, and place of worship. These results indicate that by combining the PAC items: Ease of Access, Comfortability, Success, and Satisfaction the level of access to specific activity groups are mostly close to Disagree [2] and Neutral [3].

3.2.3. Objective access to socioeconomic activities in Dar es Salaam, Tanzania

Based on the physical access to the various activity types, the estimated travel distances are presented in Figure 4. The results indicate that the decreasing order of objective access based on travel distance is place of worship, healthcare, school, marketplace, workplace and family visit.

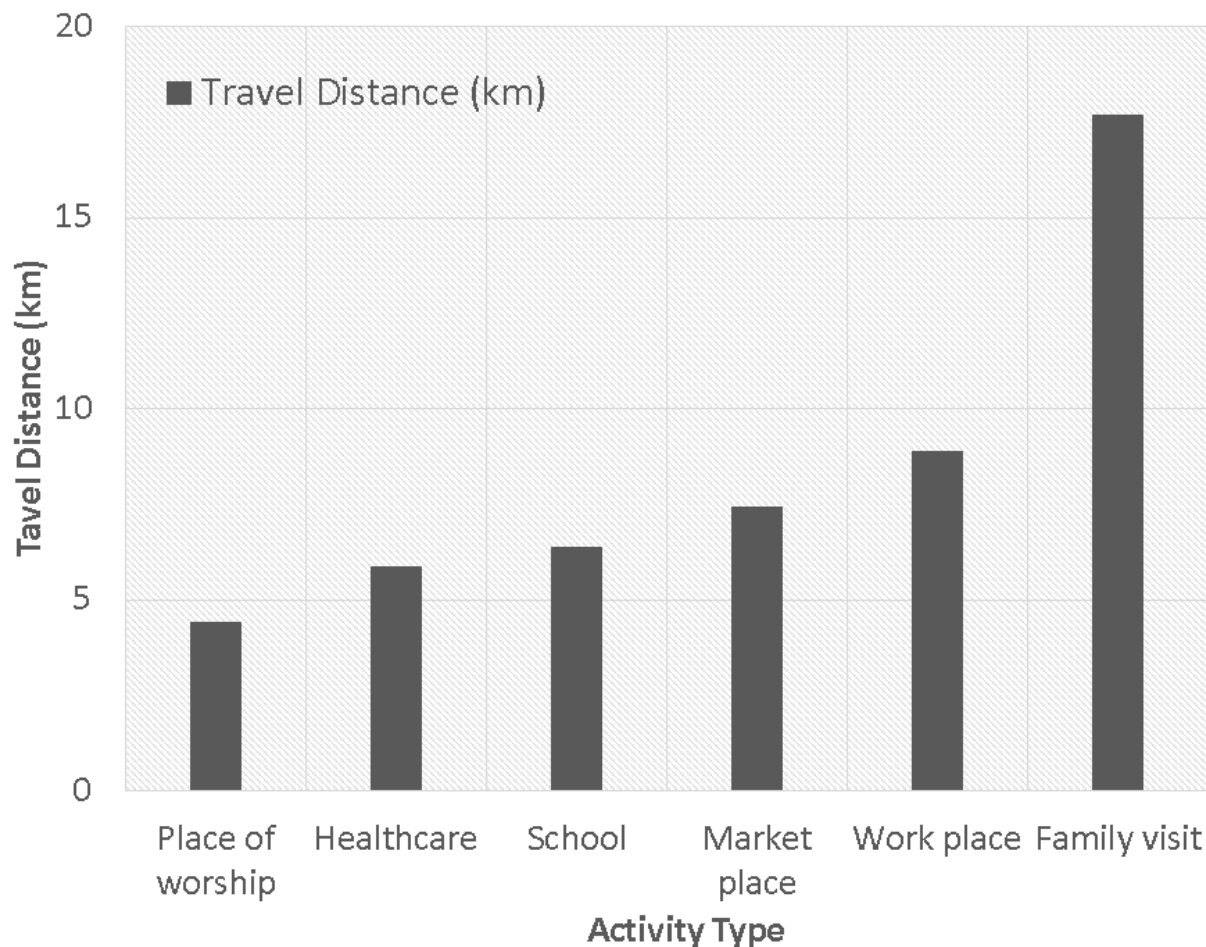


Figure 4. Overall average of objective travel distances for the selected activities in the study communities in Dar es Salaam, Tanzania.

3.2.4. Comparison between objective and perceived access in Dar es Salaam, Tanzania

Based on the perceived (i.e. user-reported) travel time and the estimated objective access, the two measurements were compared to estimate their differences for the various activity types: workplace, healthcare, marketplace, school, place of worship, and family visit. The estimated objective travel times were converted into travel time codes to match those obtained from the user-reported case. Both measurements were assigned the travel time codes: 1 for 0 - 5 minutes; 2 for 6 - 15 minutes; 3 for 16 - 30 minutes; 4 for 31 - 60 minutes; and 5 for >> 60 minutes. For the objective accessibility, the median travel time for all the various activity types is not the same but ranges from 1 to 3 (i.e., 0 - 30 minutes). Access to activities workplace, healthcare, market, school have the same median travel time of 6-15 minutes; whereas place of worship is 0 - 5 minutes, and family visit is 16 - 30 minutes. For perceived accessibility, the median travel time also change by activity type. Workplace, market place, healthcare and school have the

same median travel time of 16 – 30 minutes, and place of worship have the median travel time of 6 - 15 minutes, whereas family visit have a larger median travel time of 31 - 60 minutes. The results show that the objective accessibility consistently under-estimates the perceived accessibility across all the activity types.

4. Comparison and synthesis of findings from Ghana and Tanzania

4.1. *Comparison of findings from stakeholder consultation*

The stakeholder consultation workshops showed that the participating stakeholders from both Ghana and Tanzania have a broad and in-depth knowledge of the problem of transport access in the selected informal urban communities. The surveyed participants engaged in diverse role at their agencies including managerial, operational, and technical positions. Consistently, the proportion of female who represented their agencies at the stakeholder consultation workshops in both Ghana and Tanzania is low.

Moreover, there is a high commonality in stakeholder perspectives on the various aspects of transport access in IUCs in both Ghana and Tanzania. Participating stakeholders observed that improved transport access in IUCs have implications on their activities including enhanced access, reduced transport costs, savings in travel times, and enhanced community intervention. On the specific activities performed by both stakeholders, the findings indicated that the stakeholders are responsible for the provision of transport services, regulation, maintenance and planning of settlements. Also, the stakeholders indicated the major accessibility challenges to include inadequate allocation of funds, poor settlement planning and poor coordination among stakeholders.

4.2. *Comparison of findings from perceived and objective accessibility*

On the basis of the PAC items: Ease of Access, Comfortability, Success, Satisfaction, the overall mean is Agree [4] in the case of Ghana, and Neutral [3] in the case of Tanzania. That is, the survey participants Agree in Ghana, whereas they were Neutral in Tanzania, that their travel to access activities are easy, comfortable, successful, and satisfactory. The comparison between the objective travel times to activities for Ghana and Tanzania is presented in Figure 5. Consistently, the objective travel time is higher for Tanzania than in Ghana across all activities except for access to school. Overall the difference between the travel distances to activities for Ghana and Tanzania is about 4.6 km. That is, the objective travel time is about 4.6 km higher in Tanzania than in Ghana across all the selected activity types. In relation to perceived access, the overall median travel time across all activities for Ghana is 6 – 15 minutes,

and for Tanzania is 16 – 30 minutes. In both objective and perceived access, the travel times are consistently higher in Tanzania in comparison to those found in Ghana. Accordingly, the overall travel performance is relatively favorable in Ghana than in Tanzania on the basis of the PAC items, objective and perceived access.

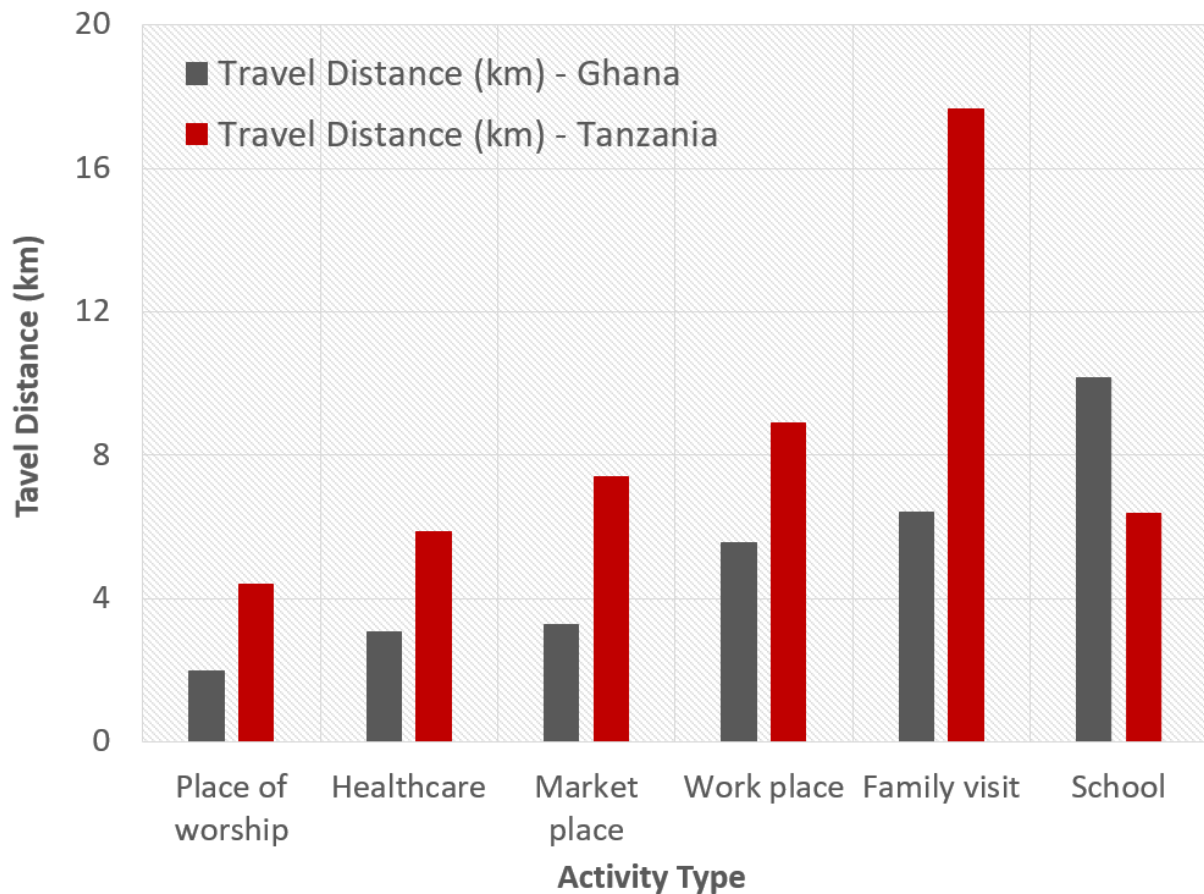


Figure 5. Comparison between the objective travel time to activities for Ghana and Tanzania.

5. Conclusions, policy implications, and recommendations

5.1. *Summary of preliminary study findings*

These preliminary analyses and findings illustrate systematic approaches to evaluate and compare unequal access to opportunities across cities in SSA. The comparisons were based on stakeholder consultation, considerable survey of residents' perception of their access to opportunities, and objective analysis of their travel time to accessing activities. The findings show a broad and in-depth knowledge of local stakeholders in addressing unequal access to activities in the selected IUCs in Ghana and Tanzania. Consistently across both countries and across the selected activities, the objective travel time was found to under-estimate the user-reported (or perceived) travel time. This is insightful in that the objective evaluation of performance of transport infrastructure should be higher in order to satisfy user needs.

5.2. *Implication of study findings: policy and practice*

The study highlights the need to leverage on the broad and in-depth knowledge of the various stakeholders in enhancing access to opportunities for local residents in IUCs. This coordination can be better handled by the local government which in turn may need to build its own capacity to address this. The findings indicate the need to increase female representation in all stakeholder agencies. Moreover, the demonstrated difference between objective and perceived travel times indicate the need to promote continual performance monitoring of transport infrastructure to better address user and community needs. The comparative analysis employed in this study illustrates an exemplary approach to provide a scorecard-type assessment towards scoring the performance of SSA cities in improving access to their most vulnerable populations.

5.2.1. *Study limitations*

The size of the study communities and their corresponding sample sizes were relatively different in both countries. Though they are statistically representative, this can influence the comparative results and our interpretation of the findings. The perceived travel time was based on user-reported values which can be affected by the ability of participants to recall their past experiences. Participants' preference for certain activities such as place of worship and family

visit could influence them in providing relatively favorable responses. These have the potential to introduce inconsistency in the reported values across their access to various activities.

FEEDBACK FORM

Thank you for attending today's event. We very much welcome your thoughts and comments as stakeholders, so that we can improve our future events. Please take a minute to complete the following, and submit, or you may scan and send to: [dgiftman@hotmail.com]

Name (optional):

Organization (optional):

Please, provide your comments on the following themes.

	Comments
The quality/relevance of the project findings.	
Are the findings relevant to your work/ agency?	
Which findings are relevant to your work?	
What aspect(s) of transport access would you like to see more research work on?	
What was your take-home message?	
Any other comments relating to the project.	

How would you rate the following in today's program: 1 (poor) – 5 (excellent)

	Score (1 – 5)	Comments
Audience interactivity		
Relevance of presentations		
Venue and catering		
Workshop structure		

What suggestions/comments for future topics and talks would you like to make?

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