

Moving in Growing Cities: Barriers to Accessibility in Fort Portal and Mbale



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Abstract

Transportation systems can define not only mobility patterns but opportunities for economic development and social freedoms. Informal, privatized transportation systems, which are the primary means of motorized transportation for the majority of Ugandans, suffer from a wide range of systemic issues. These include under-funding, politicization, road safety, and unstable incomes for transportation workers. While these issues are well-explored, however, little attention is paid to the functionality of such systems, and the barriers to accessibility they create for residents. To address these issues, I used a mixed methods approach, conducting a survey of travel habits (n=685) to collect trip data (n=2,023) and following up with qualitative interviews with a wide range of key stakeholders (n=25). The travel habits survey revealed that 90% of trips in both cities are either walking or boda boda (motorcycle-taxi) trips, roughly evenly split between the two, and that cost was the primary barrier to accessibility for residents, followed by poor road quality and road safety. Interviews also revealed a complex relationship with gender inequity, as women carry a disproportionate burden of childcare, as well as the pitfalls of informality. Going forward, this study recommends improving the inclusion of boda boda and taxi operators in local transportation planning, and considering low-cost regulations to register boda bodas to improve safety while keeping costs down.

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Introduction

Research Topic and Why

Since the late 1990s, government-owned transportation in Uganda has been essentially nonexistent, and privately operated taxis (minibuses) and boda bodas (motorcycle-taxis) have filled the gap, providing the majority of citizen's motorized transportation. While the political economy of taxis and boda bodas has been widely researched, transportation researchers have spent less time investigating the degree to which these systems serve citizens needs and provide accessibility throughout the country. Additionally, women's experiences in transportation systems are often disregarded or sidelined by transportation planners. Informal transportation systems are generally treated as non-starters by global "experts" and left out of official planning, making it difficult to assess the actual quality of service by informal operators. This is exacerbated in regional cities by many planners' focus on capital cities. Using accessibility as a measuring stick for cities transportation systems allows us to assess the current barriers residents face in accessing destinations. This study aims to assess the state of transportation and barriers to gender-equitable accessibility in regional cities in Uganda.

Transportation in regional cities in Uganda

Taxis and boda bodas provide route and door-to-door services respectively. Low density and a high supply of motorcycles in regional cities in Uganda have made boda bodas dominant. Taxis and other informal shared forms of transportation have generally been restricted to major routes and are rare outside of the capital.

Boda bodas are motorcycle-taxis, a form of transportation found throughout much of East, West, and Central Africa, as well as Southeast Asia. Boda bodas are driven largely by young men and can be found either driving solo on the street or parked at stages. Stages are a form of informal infrastructure where boda boda drivers gather to rest, chat, and wait for customers, and are most often in Uganda unmarked by any physical infrastructure. Stages are usually formed near places with high potential traffic, such as markets, bus stations, busy intersections, hospitals, or supermarkets. Prices are not formalized, but in smaller cities there is usually a well understood range. If the trip is longer than five or ten minutes and/or involves crossing neighborhoods, it is more likely to involve negotiation between passenger and driver for the fare. Boda bodas typically carry one or two passengers and can carry children and goods in a variety of imaginative manners.



Figure 1. A boda boda stage in Malukhu, Mbale

Taxis and shared cars typically move along arterial roads across districts, with the shortest distance usually being to a satellite settlement of the city. The owner typically rents out the vehicle to the driver at a weekly or daily rate. The driver, in combination with a conductor who is responsible for acquiring passengers and collecting fares, and sometimes a tout who can aid in acquiring passengers at major stops, must make enough money to take home after paying all other bills. This means that taxis and shared cars have no set schedules, but rather wait until they are full or nearly full before departure from their origins. If they become low on passengers at a certain point in their journey, they may sell their passengers onwards to another vehicle.

Regional cities in Uganda

There has been significant and valuable research on the transportation system in the capital Kampala, especially around the political economy and livelihoods of boda bodas and, to a lesser extent, taxis, but there has been little on transportation in regional cities in Uganda. In comparison, transportation in regional cities – which in Uganda are quite small, from 50,000 to 200,000 in population – are characterized by shorter trip distances, higher walkability, lower unit and total costs of transport, and the dominance of boda bodas as motorized transport.

Fort Portal and Mbale

The two cities chosen for this study, Fort Portal and Mbale, have contrasting density and urban form. Fort Portal municipality has a population of around 60,000 while Mbale has nearly double that number. Fort Portal is experiencing low-density corridor-centric growth with a heavily agricultural economy, while Mbale is more centralized and derives a higher percentage of its growth from trade and commerce. This is partly resulting from their geographies – Fort Portal is a city of many narrow ridges, with roads out of the downtown typically sticking to hilltops, while Mbale is on a much broader downslope on the side of the mountain, providing less resistance to grid planning. In both cities,



however, transportation systems are heavily informal and recent unplanned growth has led to low-connectivity growth zones. Additionally, it is key to note that during the course of this study, Fort Portal and Mbale (along with thirteen other municipalities) were in the process of becoming cities. While this study was conducted within the municipal boundaries of the two cities, many of the respondents were from outside of the municipality – especially in Mbale.

Figure 2. On the back of a boda boda in Nyakagongo, Fort Portal. Much of Fort Portal municipality is rural.

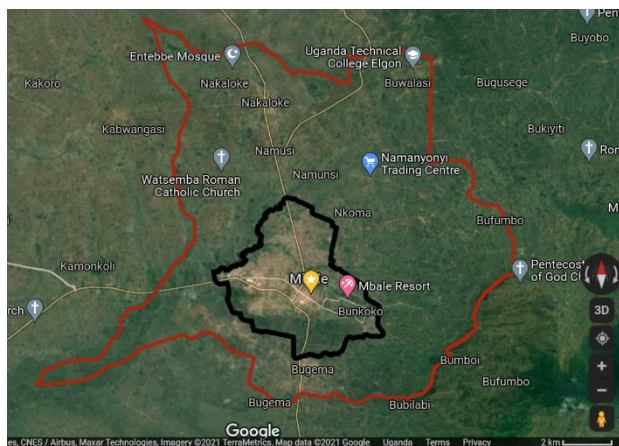


Figure 3. Mbale - Municipality and City.



Figure 3. Fort Portal - Municipality and City.

Gender and accessibility

Accessibility – the ease of reaching destinations – is increasingly recognized as the single most important measure of a transportation system. However, accessibility itself is not easily measurable, and is defined by a range of measures, including cost of transportation as a share of income, length and ease of journey, number of destinations reachable, and more. Accessibility is a critical measure of a transportation system because it takes a passenger-centered approach and focuses on the most fundamental question: are passengers able to get where they need to go, at reasonable cost, on time or with minimal waiting, and with satisfactory comfort? (Levine, Grengs, and Merlin 2019)

In Uganda and other informalized economies, transportation has been dominated by informal private operators with little regulatory oversight. A focus on operators' bottom lines has provided little room for improvements to operators services and limited services in low-density areas with little opportunity for economic gains. Women's roles as childcare providers, market vendors, and homekeepers provide a considerable and largely unseen barrier to women's accessibility, requiring them to attend to children and goods on trips out of the house. Women and low-income people have thus suffered the most at the hands of the resultant uneven transportation systems. Finally, electoral and patronage politics have undermined attempts at regulation, while underfunding and reliance on donor priorities have presented obstacles to local governments attempting to solve these issues.

This Study

This study starts with the fundamentals by investigating travel behaviors and impediments to accessibility in the regional cities of Fort Portal and Mbale, to better understand the shape of transportation in growing regional cities in Uganda and other low-income informalized economies. The study began with a review of the existing literature, which was found to be scant on Ugandan regional cities. A series of 15 exploratory interviews were then conducted with key stakeholders in Fort Portal and Mbale.

Stakeholders were identified from a wide range of civil society and government actors. In both cities, physical planners, boda boda association management, boda boda drivers, and local NGO leaders were interviewed. Additional input from people such as the Tooro Kingdom officials, local academics,

and others identified for their relevance to the study. The snowball method was used, along with the authors pre-existing networks in the cities.

A combination of quantitative assessments of over 600 respondents travel habits was then conducted by Soland ACL, with financial and advisory support from the World Resources Institute and their 3IMobility program. The primary focus of this survey was a travel diary, collecting information on respondents' previous days travel including origin/destination, time, cost, length of trip, travel mode, reason for travel, and safety issues. The survey also collected demographic information as well as asking specific questions about accessibility challenges.

I then used my quantitative findings to conduct follow-up interviews with key stakeholders in the two cities, investigating the experiences and reasons behind the numbers. Key quantitative findings were presented, and interviewees then opined on whether that fit their lived experience and understanding of local transportation trends, and why or why not that might be. An additional 17 interviews were carried out in this follow-up period, to make a total of 32 interviews with 25 respondents across the two towns.

Findings

My findings were wide-ranging, identifying accessibility gains and challenges resulting from economic privatization, transport mode capabilities, gender roles, cultural norms, informal politics, local geographies, and Covid-19. In both Fort Portal and Mbale, the primary obstacle faced by respondents in travelling to work was the cost of travel, and travel diary questions revealed that low-income respondents are spending at least a quarter of their income on transportation. Gender norms shaped accessibility by limiting women's movements while simultaneously making them more responsible for certain trips, such as medical trips and shopping trips. Women also felt more insecure regarding the threat of theft, and were much more likely to identify multiple safety issues in their daily movements. Finally, barriers to improvements to the transportation system were noted as being primarily linked to politicization of the informal transport sector and its role in the economy, which has prevented effective regulation.

Transport mode technology and economics. The introduction of first bicycle, then motorcycle boda bodas has been a key factor in expanding accessibility in Ugandan towns. Motorcycle technology has greatly expanded opportunities to conduct trade, to work formal jobs, and to access healthcare, through expanding the distances and geographies reachable while shortening travel time (Basil, Rusoke). Motorcycles themselves are physically better adapted to climbing steep, low-quality roads with less damage than either bicycles or taxis. Taxis have proven very useful for inter-urban travel, but there seem to be almost no permanent routes within either city. Reasons cited for this were primarily the comparatively low cost of boda bodas and the immediacy of hoping on a boda boda compared to waiting for a taxi to fill up.

Costs. In both cities, the cost of transportation was identified as the primary obstacle to accessibility – 45% and 28% of respondents in Fort and Mbale respectively named it as their primary obstacle to accessibility. Interestingly, the cost of travel varied over the course of the day, and the rate per distance travelled changed with distance. Though these costs may seem small, they can take up a very high proportion of the budget of residents, especially low-income residents, who can spend as much as 80% of their earnings on transportation.

Women as childcare providers. Cultural norms had a significant impact on residents accessibility. Four key beliefs were identified. The most widespread, easily identifiable and most impactful stereotype are the gendered norms around parenting. The role of gender in shaping transportation experiences is complex, and relatively understudied (apart from a few key studies by scholars such as Gina Porter). Respondents for this study would often say that gender is irrelevant to transportation, while in the next breath claiming that only men can drive motorcycles or that women's saving habits lead them to walk more than men.

Women are expected to take care of children and the home, restricting their movement from the home and leading to less average trips per day than men. Women's caretaking responsibilities, however, also mean that they know how to carry small children on their backs – a practice which is culturally unavailable for men, widening disparities in movements with children by around 60%. These gender norms, however, were not uniform across the cities – women were more likely than men to be taking boda bodas in Mbale, while the opposite was true in Fort Portal.

Local cultural norms. Three other norms and prejudices were shown to impact gender-equitable accessibility in Fort Portal and Mbale. There is a widespread belief that women are not “strong enough” to ride motorcycles, or to balance motorcycles with passengers and other heavy loads. Additionally, there is a belief that women can lose their virginities by sitting split-legged on motorcycles or bicycles. This belief is particularly culturally specific, and several minority ethnic groups more present in Mbale were identified as holding less socially conservative attitudes. Finally, beliefs that certain disabilities such as epilepsy and spine bifida can be contagious lead to additional barriers for disabled people using local transportation, as transport operators may refuse service or be discriminatory in the service they offer.

Economics. Local, regional, and national economies all play a significant role in shaping accessibility in Fort Portal and Mbale. Boda bodas – the primary means of motorized transportation for most Ugandans – are both an investment opportunity for the aspirational middle class and a job opportunity with almost no barriers to entry. In an economy with staggering official unemployment and millions attempting to scramble into financial security with few official means of investment, boda bodas have boomed. Secondly, the poor state of many roads is largely a result of historic underdevelopment stemming from political instability and postcolonial global economics. Third, the local economies of Mbale and Fort Portal are dominated by small-scale trade and retail, which is a good fit for the back of a motorcycle – as well as encouraging shorter trips and more walking trips as shops are usually built near homes or within home compounds. Finally, economic differences between Fort Portal and Mbale – seen specifically in higher incomes in Fort Portal but more urbanization in Mbale – potentially contributed to higher usage of boda bodas in Fort Portal.

Politics & organization. The political approach to regulating transportation in Uganda has been almost to largely exclude informal operators from official plans, while political actors use them for their own gains. Boda bodas are largely invisible to city planners – they are almost nowhere in the plans for Mbale and Fort Portal, despite being the primary form of motorized transportation for citizens. Secondly, boda bodas were encouraged as a form of vote-buying by many politicians, who are believed to continue to interfere. This significantly undermines attempts at regulation. Finally, boda bodas – along with other transport operators – are seen as a source of revenue by policemen and other authorities, creating tensions that has led to the murder of several boda bodas, and undermining enforcement of existing regulations.

Covid-19. Covid-19 and the regulations put in place to limit its impact have had several damaging impacts to local transportation and economy. First and foremost amongst these impacts are the two nationwide boda boda passenger bans that happened from March to July 2020 and June to August 2021. These bans affected an estimated 90% of boda boda business in Uganda, and boda bodas and their passengers were dealt with harshly – several boda boda drivers have been murdered by policemen since the start of the pandemic. Secondly, in between and since the lockdowns, curfews preventing night-time travel have severely clamped down on Ugandan nightlife and with it business for boda bodas – as well as safety for those needing to travel at night regardless. Finally, almost no support was given to boda bodas throughout this time – a reported UGX 100,000 (\$28) which was to be given to boda drivers was mired in scandal, and all boda drivers and associations interviewed for this study reported never receiving government assistance.

Organization of rest of study

The following chapters will be discussed as follows. Chapter One will be a view of the existing literature on the topic of transportation in Fort Portal and Mbale, and more broadly small- and mid-sized cities in low-income countries. Chapter Two will address the methods used in this study to assess the question. Chapter Three will be a thorough review of the results of the survey and interviews. Chapter Four will be based around a discussion of the results and their implications for accessibility in Fort Portal and Mbale. Chapter Five will then conclude with a set of specified recommendations for Fort Portal and Mbale City Councils.

Understanding Transportation in Uganda

Transportation and Accessibility

Accessibility is defined as the ease of reaching destinations and is shaped by a myriad of factors, including land-use patterns, development density, social norms, socioeconomic status, governmental roles, and available technology. It can be measured in several ways, including the cost in time and money to reach certain destinations as well physical comfort along the way. Accessibility is a critical measure of a transportation system because it takes a passenger-centered approach and focuses on the most fundamental question: are passengers able to get where they need to go, at reasonable cost, on time or with minimal waiting, and with satisfactory comfort?¹

Ugandan Transportation

Ugandan Transportation Context

While formal public transportation services have existed to various degrees in post-independence Uganda, most had been shuttered by economic downturns by the early 1990s, and the Ugandan transportation system today is recognized as a highly informal setting.² In Kampala and for inter-district travel, publicly-owned buses were largely replaced by informal minibus-taxis, commonly known as taxis, which provide generally affordable if poorly organized services.³ The recent dominance of motorcycle-taxis – boda bodas – in short-distance trips across most of the country reflects their flexibility in offering feeder services, door-to-door services, no wait time, and providing employment to young men.⁴ The



Figure 4. A man and a woman taking a boda boda on the outskirts of Mbale.

nature of transportation – namely, using surplus labor from high unemployment, low incomes, and insecure work conditions – creates insecurity and disposability, and a degree of solidarity amongst transportation operators.⁵

Fort Portal and Mbale

Little has been written academically on the transportation systems of Mbale or Fort Portal. Searching Master's theses from Makerere University and grey papers turned up some publications related to

¹ Levine, Grengs, and Merlin, *From Mobility to Accessibility*.

² Kumar, Ajay, "Understanding the Emerging Role of Motorcycles in African Cities."

³ Ndibatya and Booyesen, "Minibus Taxis in Kampala's Paratransit System."

⁴ Howe, "Filling the Middle."

⁵ Doherty, "Life (and Limb) in the Fast-Lane: Disposable People as Infrastructure in Kampala's Boda Boda Industry."

Mbale, but there was still nothing readily available about transportation in Fort Portal.

In Mbale and surrounding regions, poor road conditions were found to be a result of overloading, drainage, and underfunded maintenance, and that investing in alternative modes of transportation would help elongate road lifespans.⁶ Limited access to markets was also shown to be a contributing factor to the high failure rate of small and medium enterprises in Mbale.⁷ Additional grey papers have confirmed poorly maintained roads being a significant issue for transportation in Mbale, as well as a lack of coordination and infrastructure for pedestrians.⁸

In Fort Portal, only newspaper articles were available to assess. These show us that Fort Portal has been a site of contestation over the regulation and politicization of boda bodas. When regulations were passed in 2004 requiring drivers and passengers to wear motorcycle helmets, boda boda drivers protested, blocking a major road and assaulting drivers who were following the new regulations.⁹ Security has also been a significant issue, and thieves have used motorcycles as getaway vehicles on numerous instances, creating general distrust of the sector.¹⁰ Additionally, attempts at self-regulation and tax collection by boda boda and taxi associations have gone awry, resulting in a loss of revenue for municipal councils and reputational blows to the associations.¹¹



Figure 5. A taxi on the outskirts of Mbale.

Barriers to accessibility in low-income, high informality, medium urbanization settings

Informal systems of transportation in developing countries are known to suffer from issues of road safety, male exclusivity, and poor coordination, as well as high levels of resistance to government regulation and enforcement. Government programs to support mass transport systems can struggle to balance affordability and quality services, especially in the developing context.¹²

Accessibility to important destinations is made more difficult by a transportation system left largely to the private market with minimal government input and lack of coordination, resulting in absent or loose safety and environmental regulation.¹³ For instance, peri-urban areas in Kumasi, Ghana are often left

⁶ Opio, "Analysis of Road Asset Management Systems in Uganda."

⁷ Nangede, "Evaluating the Causes of Financial Distress of Small and Medium Size Enterprises."

⁸ UN-Habitat, "Mbale Urban Profile Uganda.Pdf."

⁹ Kajubu, "Cyclists Block Road."

¹⁰ Mugisa, "Police Arrest Three Suspected Highway Robbers."

¹¹ Mulondo, "Fort Portal Demands Sh27m From Freeline."

¹² Cervero, "State Roles in Providing Affordable Mass Transport Services for Low-Income Residents."

¹³ Cervero and Golub, "Informal Transport."

out of bus routes when their density is not considered sufficient for profit-making. Taxi services emerged to offer last-mile services.¹⁴ Generally, coordination and cooperation among private transportation associations and between associations and governments have been heavily under-explored.¹⁵

Much of the literature on transportation in Uganda is focused on the capital Kampala. While I were unable to find a study comparing travel habits or demands across Ugandan cities, a World Bank study of travel patterns in 15 Kenyan cities suggests that trip lengths in secondary cities were one-third shorter than those in the capital. They shorten with the decreasing size of the city, and walking is considerably more dominant in smaller cities. Smaller cities also have less motorized transport.¹⁶ In Nairobi, accessibility to health facilities was highest in medium-low income neighborhoods and private driving had the highest level of accessibility, followed by paratransit, with walking last.¹⁷ This is roughly inverse of the prevalence of transport modes in smaller urban cities in Kenya, where walking takes up 80% of commutes; the remaining trips were split nearly evenly between motorcycle-taxis and minibuses.¹⁸ Highly educated passengers were more likely to use minibuses and motorcycle-taxis than less well-educated passengers, who were more likely to travel by bicycle and walk.¹⁹ However, non-motorized transportation infrastructure is under-developed in Uganda, posing significant danger to pedestrians.^{20,21}

Gendering Accessibility in the regional city context

Gender has been shown to have a strong, though complicated relationship to accessibility. Gender roles that would have women stay at home on domestic duties while men go out to work are dynamic, and have been mostly undermined by capitalism, modernization, and urbanization.²² Women's barriers to accessibility are also commonly linked to lower incomes.²³ Specific "cultural" beliefs about women's virginity, dignity, and respect, also present barriers to accessibility beyond that of men.²⁴ Safety is oft-cited by respondents on the ground as restricting areas and times in which women can travel. Finally, these gender roles also create resistance to women's participation in the transportation industry, which then can reinforce the previous set of barriers to accessibility. Gender disparities tend to be exacerbated in rural areas, where women tend to have lower incomes and deal with higher gender conservatism and sexism.²⁵ However, previous work by researchers in Kenya suggested that local cultural and socioeconomic context – especially attitudes around secluding women – can create significant disparities for men and women's usage and experience of transportation systems.²⁶

¹⁴ Adu-Gyamfi, "Planning for Peri Urbanism."

¹⁵ Boutueil, Lesteven, and Nemett, "Toward the Integration of Paratransit in Transportation Planning in African Cities."

¹⁶ Salon and Gulyani, "Commuting in Urban Kenya."

¹⁷ Campbell et al., "Accessibility across Transport Modes and Residential Developments in Nairobi."

¹⁸ Salon and Gulyani, "Commuting in Urban Kenya."

¹⁹ Salon and Gulyani.

²⁰ Nakitto et al., "Pedestrian Traffic Injuries among School Children in Kawempe, Uganda."

²¹ Punchak et al., "Mechanism of Pediatric Traumatic Brain Injury in Southwestern Uganda."

²² Porter et al., "Child Porterage and Africa's Transport Gap."

²³ Porter, "Transport Planning in Sub-Saharan Africa II."

²⁴ Porter.

²⁵ Porter.

²⁶ Salon and Gulyani, "Commuting in Urban Kenya."



Figure 6. Teddy Kabatoro, VP of the Kabarole Women's Boda Boda Riders and Farmers Association.

Gendering Accessibility

Porter noted three destinations that are critical for women: markets, education, and health services.²⁷ For women passengers and business owners, motorcycle-taxis can be a critical lifeline to access healthcare and education, while motorcycle taxis help small businesses move goods and provide deliveries.²⁸

Gender Roles and Accessibility

Gender roles are a barrier to accessibility in several ways. In the slum neighborhoods of Nairobi, Gulyani & Salon found that women faced significantly more barriers to accessibility than men.²⁹ By making women responsible for domestic duties while making men breadwinners, they restrict women's movements closer to the home.³⁰ The differences in work opportunities then exacerbate income inequalities, which further restricts women's mobility by making transportation more cost-restrictive.³¹

While gender roles are typically more restrictive in rural areas,³² this is not uniformly so. Mombasa, the second-largest city in Kenya, had by far the highest gender inequities in a survey of fifteen cities in Kenya. This is likely defined by stronger gender norms around women's roles in the household and cultural attitudes towards secluding women.³³ Lamu Town, another notably conservative area, has also shown remarkably more constricting attitudes towards women's mobility.³⁴

Gendered Cultural Beliefs and Accessibility

A 1994 study on bicycle boda bodas in Mbale District found that women riders were viewed as "too liberated" and insufficiently subservient, and that riding was a man's activity.³⁵ However, it also found that these views were highly culturally dependent – they were deep-seated amongst the Bagisu around Mbale, but much less prominent amongst the Japadhola in neighboring Tororo.³⁶ Across other African

²⁷ Porter, "I Think a Woman Who Travels a Lot Is Befriending Other Men and That's Why She Travels."

²⁸ Jenkins et al., "Changing Women's Lives and Livelihoods."

²⁹ Salon and Gulyani, "Mobility, Poverty, and Gender."

³⁰ Venter, Vokolkova, and Michalek, "Gender, Residential Location, and Household Travel."

³¹ Porter, "Mobility and Inequality in Rural Nigeria."

³² Venter, Vokolkova, and Michalek, "Gender, Residential Location, and Household Travel."

³³ Salon and Gulyani, "Commuting in Urban Kenya."

³⁴ <https://www.the-star.co.ke/authors/praxidescheti>, "Lamu Clerics Want Women Banned from Riding Boda Boda."

³⁵ Calvo, "Case Study on Intermediate Means of Transport Bicycles and Rural Women in Uganda."

³⁶ Calvo.

nations, it was found that patriarchal language that paints highly mobile women as uncaring or unfaithful wives is a considerable barrier to women's mobility, as women can be threatened with violence when they seek improved mobility.³⁷

Safety

Concurrently, gender differences in travel habits are greatest in more rural areas, with city-dwelling women benefiting from significantly more equitable accessibility than women in villages.³⁸ While safety can be experienced differently by men and women in small-town Uganda, it is unclear if specialized services created for women would be the best way to go.³⁹

Gendering Work

Gender-equitable transportation recognizes the roles of passengers, drivers, and owners. Women are systematically shut out of driving jobs across African transportation systems and there are negligible women owners of transit vehicles.⁴⁰ In Sierra Leone, women's exclusion from the motorcycle-taxi industry was viewed differently by men and women. Men claimed that it was primarily women's fear of sexual assault or robbery that prevented them from becoming operators, while women said that lack of access to capital was the major barrier to gaining self-employment in the motorcycle taxi industry.⁴¹

Conclusion

In the literature around transportation in Uganda, there are dozens of studies on the capital city Kampala and a handful on rural Uganda. There is almost nothing, however, about transportation in regional cities, which act as buffers for an urbanizing population (cite). Similarly, significant attention has been paid to the political economy of boda bodas and the hardships of rural women's livelihoods, yet a discussion connecting accessibility and gender equity has been noticeably missing. This research seeks to fill this gap.

³⁷ Porter, "I Think a Woman Who Travels a Lot Is Befriending Other Men and That's Why She Travels."

³⁸ Venter, Vokolkova, and Michalek, "Gender, Residential Location, and Household Travel."

³⁹ Kwamusi, "Safety and Gender Issues in Rural Transport in Busia District, Uganda."

⁴⁰ Diaz Olvera, Plat, and Pochet, "The Puzzle of Mobility and Access to the City in Sub-Saharan Africa."

⁴¹ Jenkins et al., "Changing Women's Lives and Livelihoods."

Methods

Study Design

Transportation studies are a cross-cutting discipline, incorporating engineering, urban planning, sociology, and more. Using both quantitative and qualitative approaches allowed a more nuanced understanding of accessibility and gender equity to emerge. A quantitative survey was conducted in both cities using a streetwise random sampling approach. This was preceded and followed by a set of semi-structured interviews with key stakeholders, to describe the context of the local transportation systems and to help explore the causes and implications of the findings from the quantitative survey.

Data Collection

Quantitative Survey

To assess the existing travel patterns and obstacles to accessibility in Fort Portal and Mbale, the author worked with World Resources Institute – with whom he was an intern at the time – under their 3IM Mobility program. The survey was funded by the 3IM Mobility program, a joint WRI-Shell Foundation initiative.

The survey in Mbale was carried out over the 21st to the 27th of August, and 26th August to 1st September in Fort Portal. The survey was managed by Soland ACL, a Ugandan survey company, who hired mostly university students as surveyors in both cities. The streetwise random sampling approach consists of a surveyor standing in a certain area of the street and asking random passersby if they were available to respond. If they were available, the surveyor would read the questions to the respondent and fill in the answers on their behalf.

The survey primarily included questions about travel habits – this was collected by asking respondents details about all trips from the day previous to the survey. This method was chosen for its accuracy, as higher recollection has been shown from the day-before approach. Additionally, a detailed set of trips would allow for seeing real patterns across a seven-day period.

Survey questions included the origin, destination, time of departure, length of trip, reason for travel, travel mode, cost, safety issues, and potential alternative travel mode. Other questions in the survey included age, gender, income level, education, job accessibility, and job accessibility challenges. A full version of the survey can be found in **Appendix I**.

Interviews

Qualitative interviews in Fort Portal and Mbale were carried out by the author himself and included a wide range of stakeholders from the government, private sector, and non-government organizations. Stakeholders represented a wide range of transport-related positions, including but not limited to municipal physical planners, boda boda drivers, boda boda associations, and local NGOs in both cities. Additionally, perspectives were sourced from members such as the Minister for Culture of the Tooro Kingdom, taxi association members, hospital officials, and environmental planners. Roughly half of the interviews were carried out prior to the trip diary survey, and the other half carried out after the survey to inquire as to the potential causes of the survey findings. Interviewee names, roles, and dates of interviews are available in **Appendix II**.

The first round of interviews asked broad-ranging questions regarding the roles of the respondents and their positionality regarding the boda boda and transportation industries in the two towns. The second

round of interviews took notable findings from the survey and queried whether these findings were reflective of respondents lived experiences, and what could be explanatory reasons for the findings.

Data Analysis

Quantitative Survey

Data Cleaning

The data were first cleaned by Soland in conjunction with the author. The cleaned data were initially analyzed for descriptive statistics, to identify possible trends and correlations. Odds ratios, which represent the likelihood that an outcome will occur in the case of a certain exposure in comparison to non-exposure, were relied on largely to understand the statistical trends.

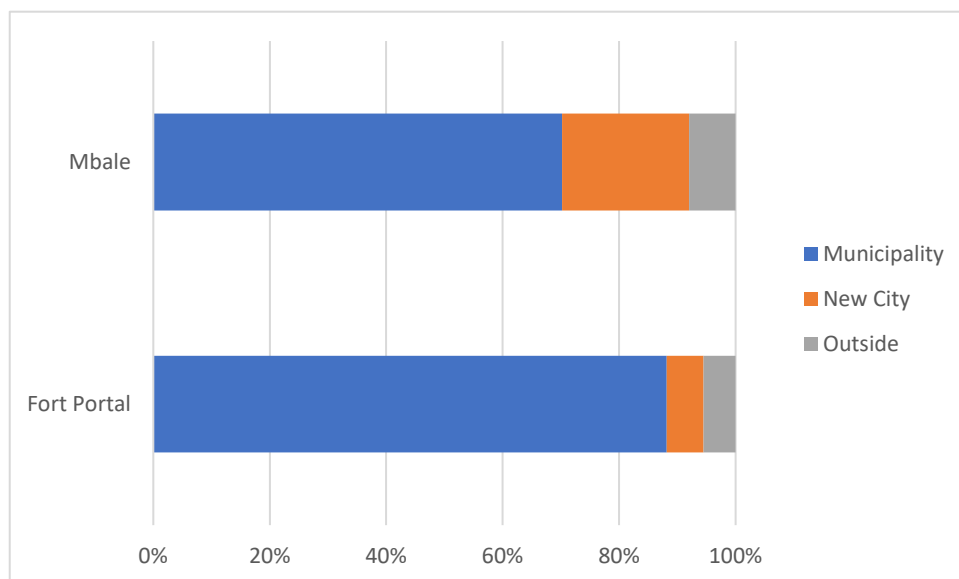


Figure 7. Survey respondents by residency

GIS Mapping

Data were then analyzed using GIS mapping, focusing on parish residency.⁴² Analysis was relatively straightforward – respondents parish residencies were assessed for their demographics and associated trip data to assess different travel behaviors and demographics across the parishes.

Demographics

In total, 685 complete surveys were collected from across Mbale and Fort Portal, roughly proportional between the two cities and between the genders.

	Mbale	Fort Portal
Total surveys	344	360
No trips in previous day	0	12
Personal car as primary transport	5	2
Total respondents surveyed	339	346

Table 1. Survey counts.

Respondents were collected from all parishes across the former municipalities of the two cities but included residents from outside the municipalities as well. In Mbale, 30% of respondents lived outside of the municipality, compared to only 12% of respondents in Fort Portal. This should be understood as a reflection of the disparities in urbanization within

	Mbale		Fort Portal	
	#	%	#	%
Female	162	47.8%	174	50.3%
Male	177	52.2%	172	49.7%

Table 2. Survey counts by gender.

⁴² Parishes are the second-smallest administrative unit in Uganda, also known as Local Council II (LCII), and consists of around five to ten villages. There are several parishes within a sub-county, also known as a Division or LCIII.

the municipalities, with Fort Portal municipality including significantly more of surrounding peri-urban and rural neighborhoods than Mbale.

Qualitative Interviews

Qualitative interviews were initially transcribed automatically using Otter.ai, a speech to text transcription software, and then corrected by the author. Key takeaways were highlighted, and quotes extracted to aid in contextualizing the quantitative findings.-In Fort Portal, a total of 16 interviews were conducted with 14 respondents, while in Mbale another 16 interviews were conducted with 11 respondents.

Results

	Female	Male	Total
Municipality	273	270	543
New City	45	51	96
Outside City	18	28	46
Grand Total	336	349	685

Table 3. Survey count by gender and location.

Respondents' residences were also illuminating. More men than women from outside of the new city boundaries were found, suggesting higher male mobility from rural areas into urban areas.

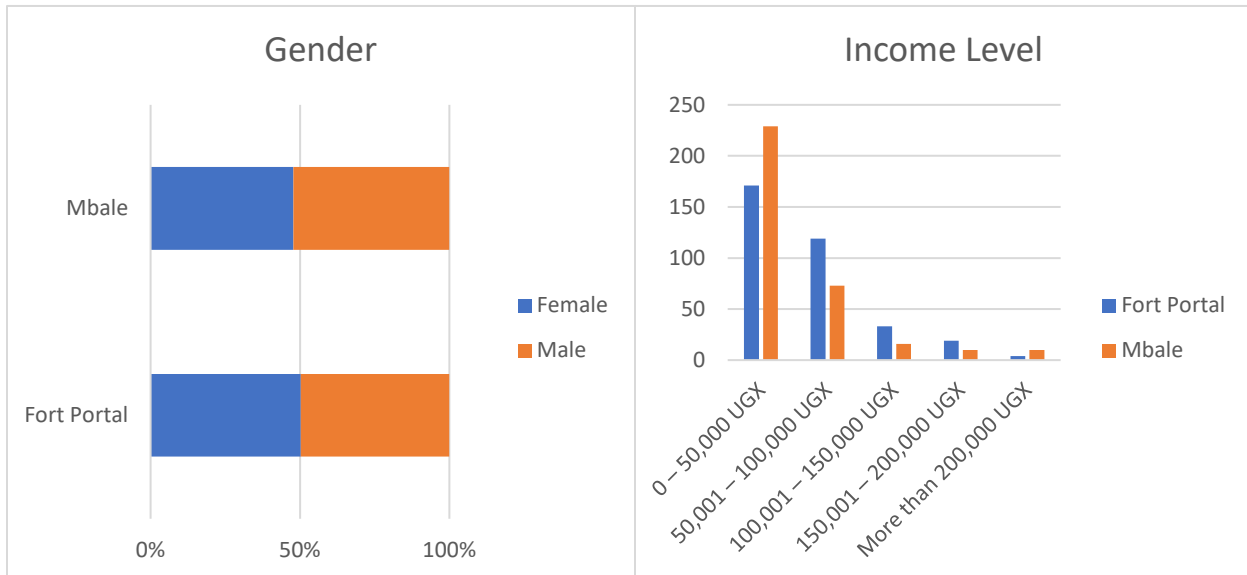


Figure 9. Respondents' gender across the cities.

Figure 10. Respondents' income across the cities.

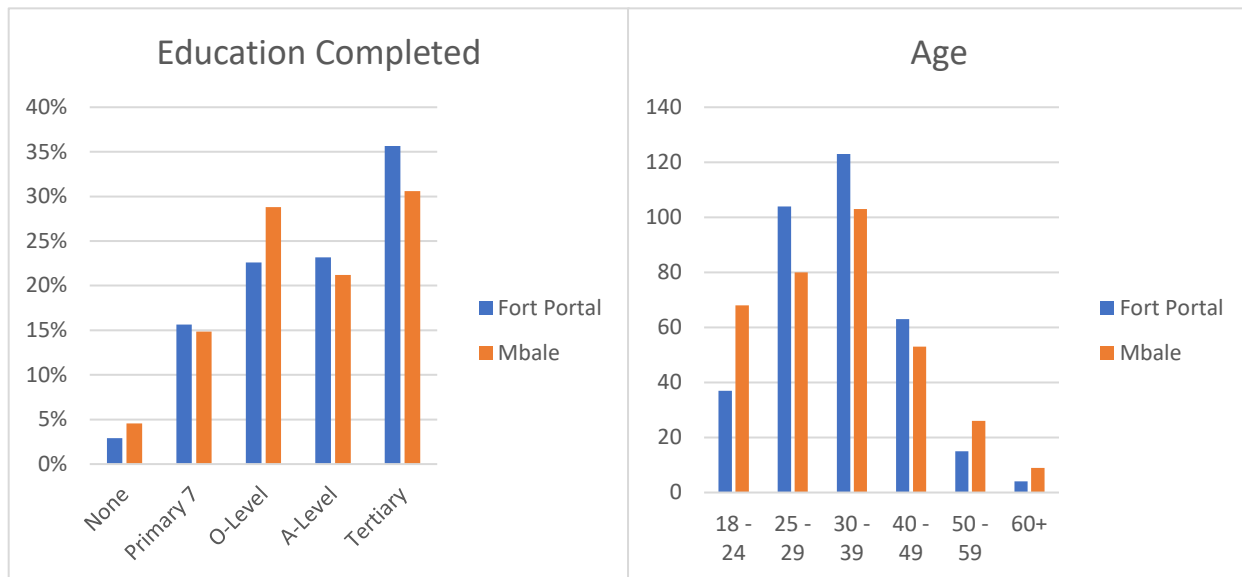


Figure 8. Respondents' education across the cities.

Figure 12. Respondents' age across the cities.

Men and women were nearly evenly sampled. Respondents were overwhelmingly low-income and moderately educated, with a third of the sample holding a tertiary degree. Respondents were also fairly young. Comparing to the Mbale 2014 census, our survey was found to undersample people from the age of 18-30.⁴³

Travel Patterns:

Reasons for Travel

Figure 13 shows a difference between Fort Portal and Mbale in trips to work, with Mbale residents making 1.4 times the number of work trips as Fort Portal residents likely reflecting the more urbanized nature of Mbale Municipality (95% CI: 1.17 – 1.70, p value = 0.0003). Trips to work and returning home made up around two-thirds of all trips, with the remainder a mix of personal errands and leisure trips. This is an area where the impact of Covid-19 is likely to be depressing education and possibly also leisure trips, as schools had been closed for 17 months at the time of survey and there was still a 7 PM curfew on movements.

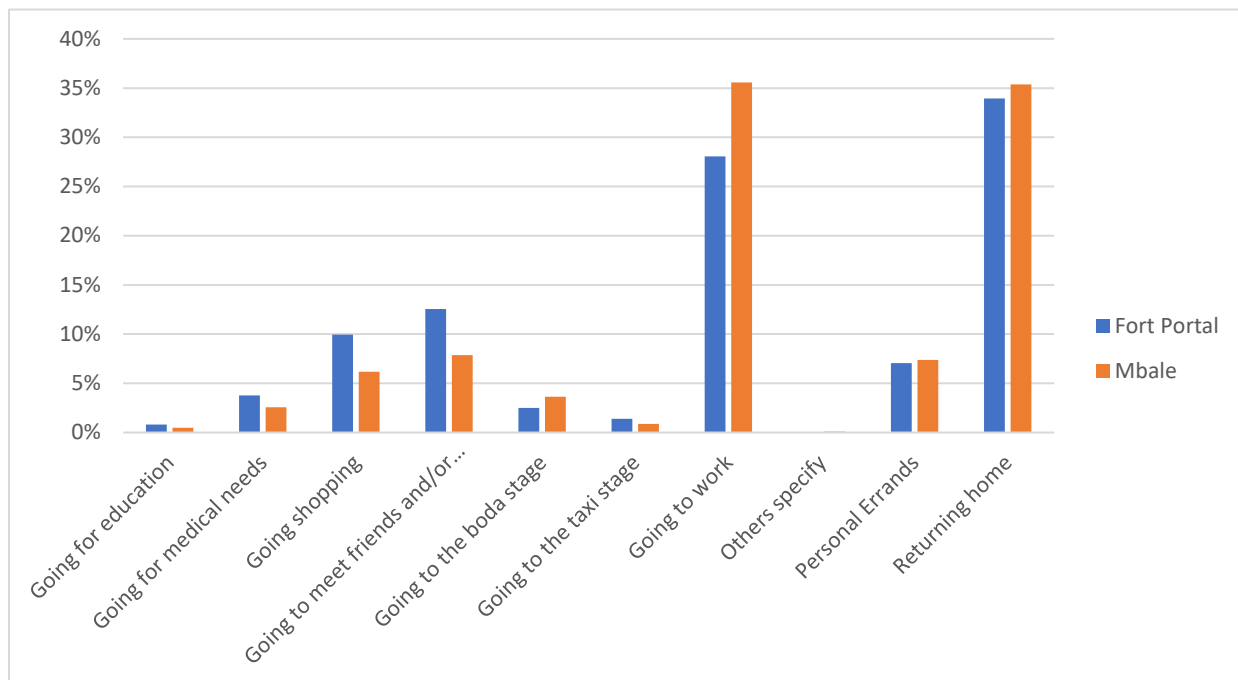


Figure 9. Reason for travel by city

⁴³ There could be several reasons for this. One could be the temporary closure of the Islamic University In Uganda (IUIU) due to the Covid-19 pandemic at the time of our survey.

Travel mode

In both Mbale and Fort Portal, walking and boda boda trips make up at least 90% of all trips within the municipality, though the exact breakdown differed by municipality (Figure 14). The rest of the trips were divided amongst private vehicles, taxis & shared cars, bicycles, special hire, and trucks.

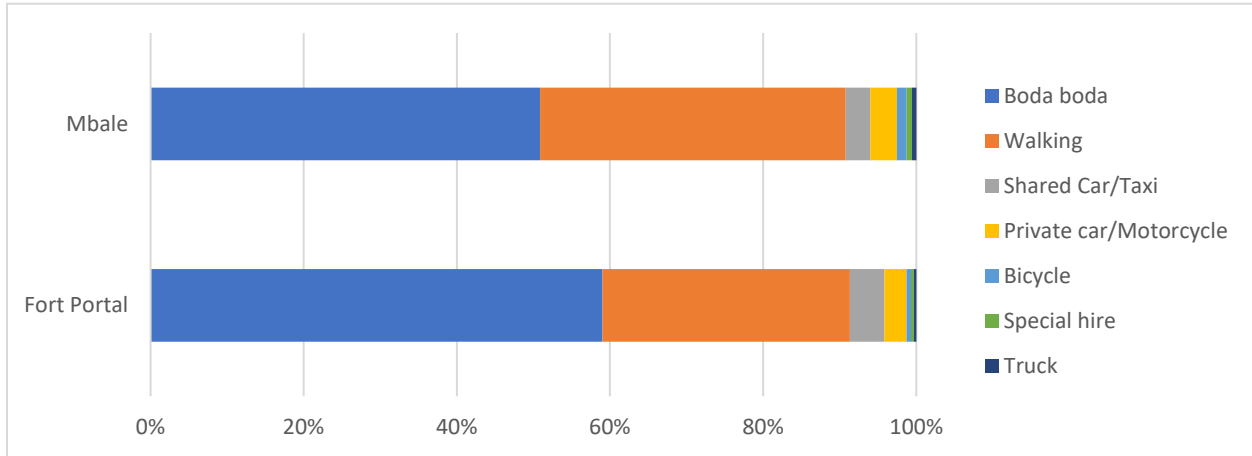


Figure 10. Trips by travel mode and city

By comparing the lowest income group – who make up 49% and 68% of the Fort Portal and Mbale samples respectively – against those making more than 50,000 UGX (\$16) a week, a clearer correlation appears (Figure 15). Respondents who made more than 50,000 UGX a week in Fort Portal and Mbale were respectively 1.75x and 1.45x as likely as those making less to take a boda boda rather than walk.

Walking trips were much more common for low-income individuals. Altogether, people making 50,000 UGX or less a week were 1.8 times as likely as higher-income earners to walk (95% CI: 1.5219 – 2.2104, $p < 0.0001$). Additionally, people making more than 50,000 UGX a week were 1.55 as likely as lower-

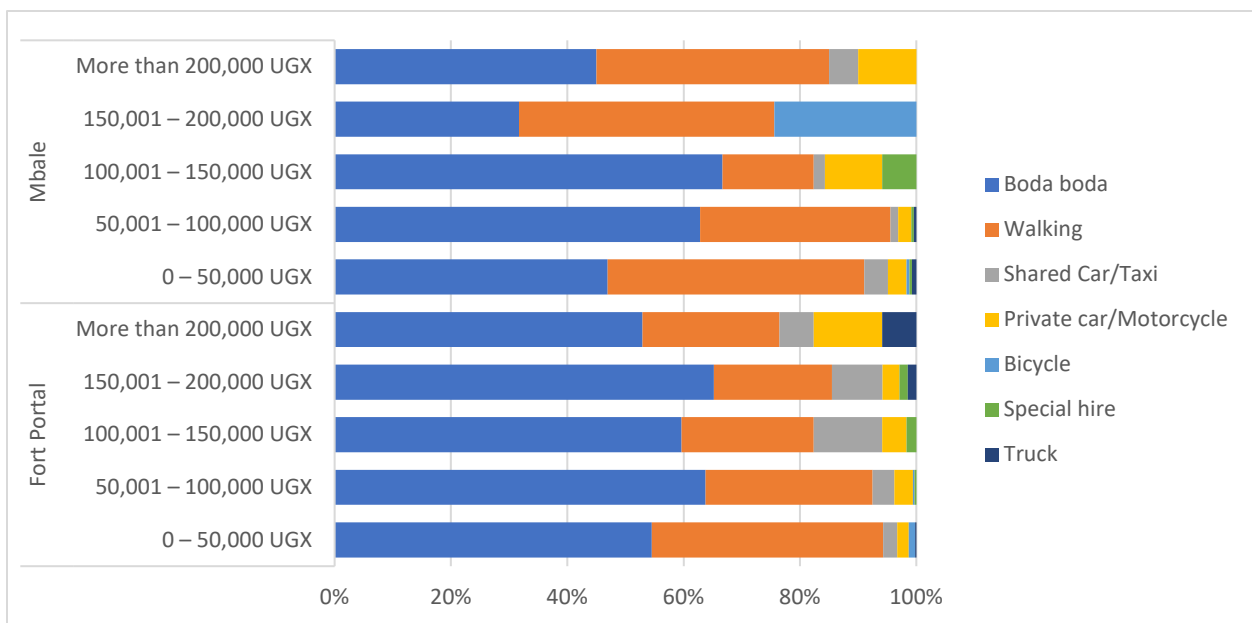


Figure 11. Trip mode by income

income earners to take boda bodas (95% CI: 1.3007 – 1.8552, $p < 0.0001$). Additionally, there is an increase in usage of private cars, shared cars, taxis, and special hires – people making more than 50,000 UGX were 1.45 as likely as lower-income earners to be taking one of the four-wheeled options (95% CI: 1.0443 – 2.0228, $p = 0.0266$).

Major differences between men and women’s usages of travel modes was also detected, with men taking significantly more boda bodas than women in Fort Portal, while the opposite was true in Mbale

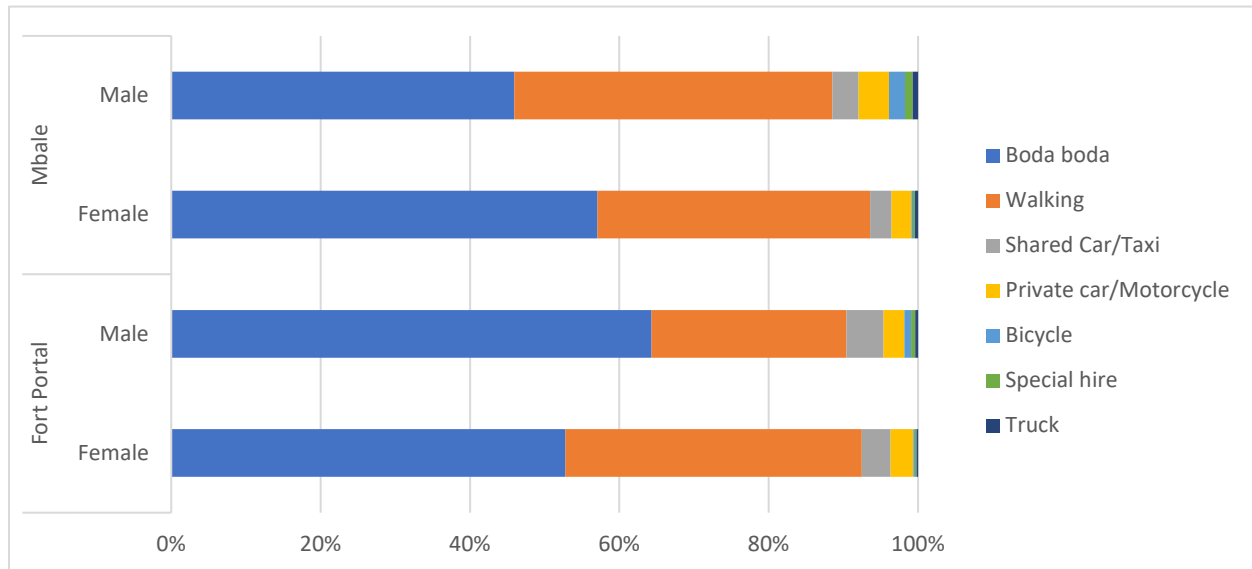


Figure 16. Trips by travel mode, gender and city

(Figure 15).

Child Accompaniment

Though not pictured here, in total, around 7.6% of women’s trips were accompanying children, compared to only 2.8% of men’s trips. Women were 3.7x as likely as men to be accompanying a child on a trip ($p < 0.0001$, 95% CI: 2.68 – 5.07). However, this inequality was larger in Fort Portal than Mbale – women were 4.04x as likely as men to accompany children in Fort Portal, compared to only 3.39x as likely in Mbale.

Modal choice then had a clear part to play when accompanying children. Women were 5.68x as likely as men to be accompanying children while walking (95% CI: 3.2748 – 9.8477, $p < 0.0001$). While there was no significant difference in usage of boda bodas when accompanying children, men were 2.12x more likely than women to be using motorized transportation when accompanying children (95% CI: 1.1074 – 4.0607, $p = 0.0233$).

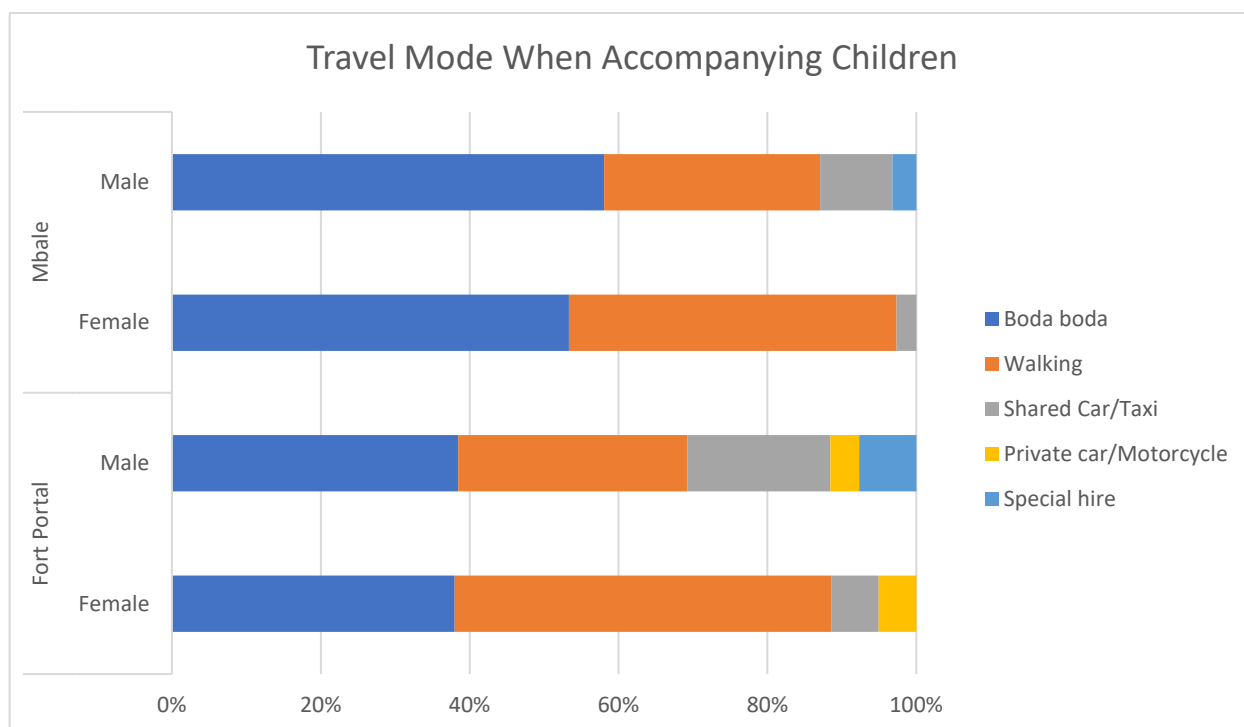


Figure 12. Travel mode when accompanying children, by gender

Travel Costs

The complexity of describing locations and destinations to interviewers makes accurate distance measurements for trips impossible. Instead, duration of trip was used as a proxy, which then allowed us to analyze trip cost in terms of UGX / min.⁴⁴ Of the motorized travel modes, boda bodas were shown to be only slightly more expensive than taxis and trucks, which run on specified routes, but significantly cheaper than special hires, which also service door-to-door trips.

Travel Mode	Avg UGX / Min	Avg cost of 10 min trip
Shared Car/Taxi	133	1,330
Truck	138	1,380
Boda boda	158	1,580
Special hire	948	9,480

Table 4. Cost of transportation modes.

Travel cost by boda boda varied across time of day in both cities, with some noticeable differences. Overall, travel costs per distance travelled was higher in Mbale. Mbale also saw the highest costs at 7 am, 8 am, 5 pm, and 8 pm. Fort Portal also had high costs at 7 am, but other peaks were only later at night at 9 pm, and midday peaks at 10 and 12 am. Across both cities, the shortest trips were the most expensive per duration.

⁴⁴ This is admittedly a slightly awkward measure. A good shorthand to keep in mind is that a 10 minute trip costing 1,000 UGX is 100 UGX / min, while the same length trip costing 2,000 UGX is 200 UGX / min.

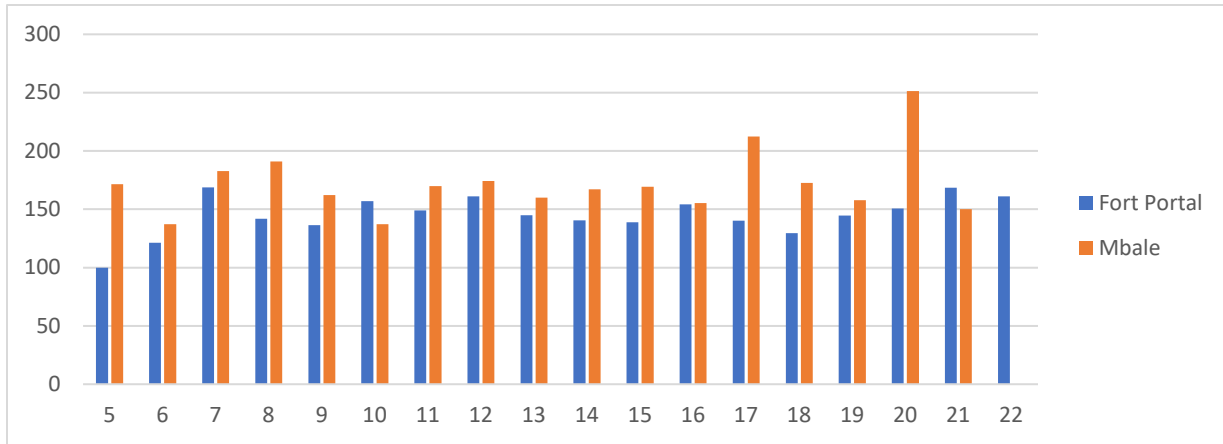


Figure 18. Boda boda travel cost across time of day

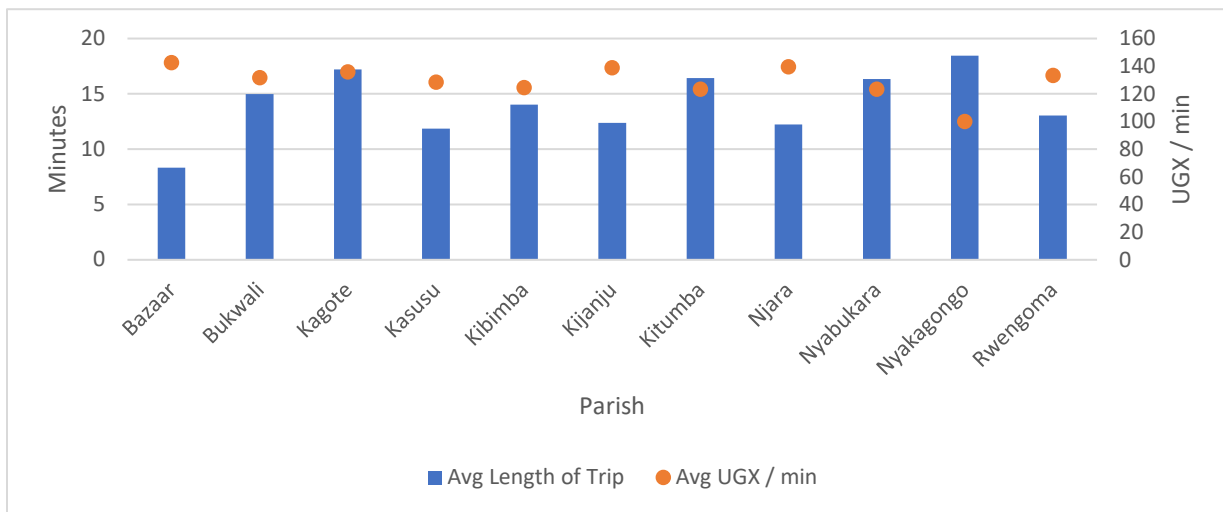


Figure 13. Trip duration vs UGX / min in Fort Portal

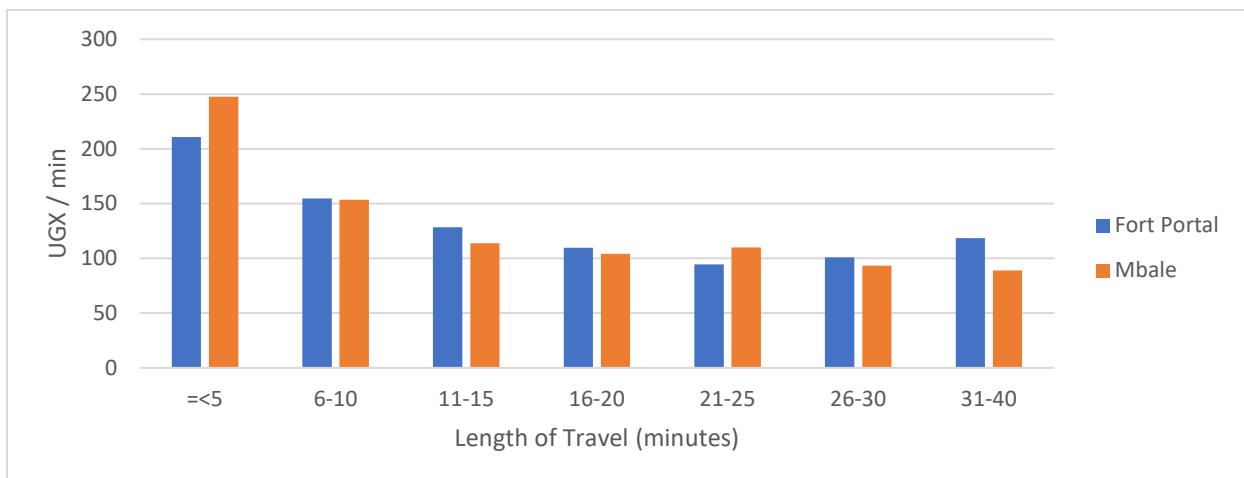


Figure 20. Boda boda travel cost vs length of trip

Per income level

Rising incomes broadly see increasing expenditure on transportation, a phenomenon well supported in the literature. A limited number of respondents (29) were in the 150,000 – 200,000 UGX / week income bracket, and several of the longest and most expensive trips were made by these respondents, skewing the dataset.

Cost as % of income

More important than simply expenditure, however, is the share of earnings spent on transportation. To assess cost of transportation as a % of income, I used mean income values – for example, 25,000 UGX for the group making 0 – 50,000 UGX / week – and created error bars representing 20% and 80% of income range respectively.

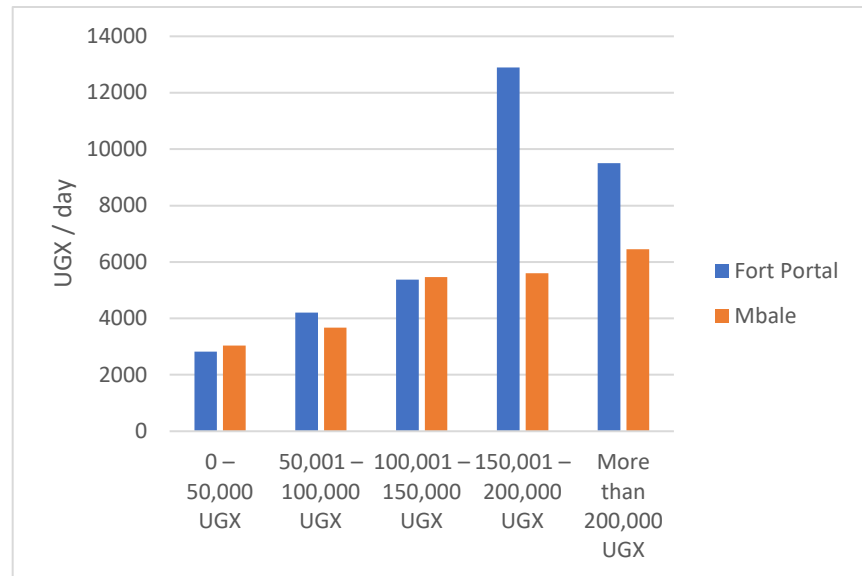


Figure 14. Daily transportation expenditure by income

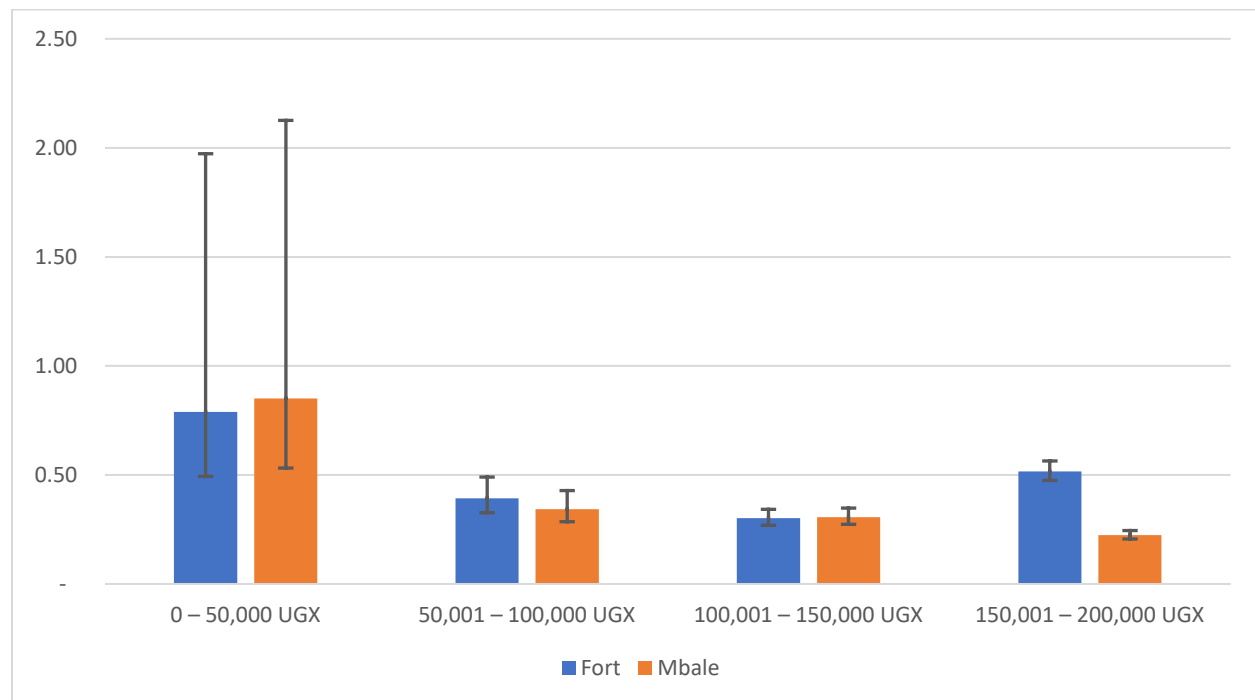


Figure 15. Transportation costs as % of income

This shows transportation to be a nearly unbearable cost for poor residents, taking at least half of their earnings. Those making more than 50,000 a week, however, were still spending around a quarter of their income on transportation alone. To understand how someone could spend more than their

income, it is helpful to recognize the complicated nature of household finances. Members often support one another financially, and can also receive support from relatives, friends, and patrons outside the home.

Per parish

Make Maps

Reported Accessibility:

Reported Barriers to Accessibility

The top three barriers to accessing work in both cities, in the same order, was cost, poor road quality, and road safety.

In Fort Portal and Mbale, 9% and 22% of respondents respectively reported no barriers to accessibility, and a further 9.8% and 15.3% reported only a single barrier to accessibility in Fort Portal and Mbale each. This reflects what is known from the literature about rural areas having higher barriers to accessibility.

	FORT PORTAL	MBALE
1ST	Cost	Cost
2ND	Poor road quality	Poor road quality
3RD	Road safety	Road safety
4TH	Distance / time	Exposure to bad weather
5TH	Exposure to bad weather	Distance/time

TABLE 5. PRIMARY BARRIERS TO ACCESSIBILITY.

Very few respondents (less than 2% in both cities reporting it as the primary barrier) reported issues with accessing transportation itself, reflecting the ubiquity of boda bodas. Insecurity, the curfew, and police violence were only reported as barriers by 1.7% of respondents.

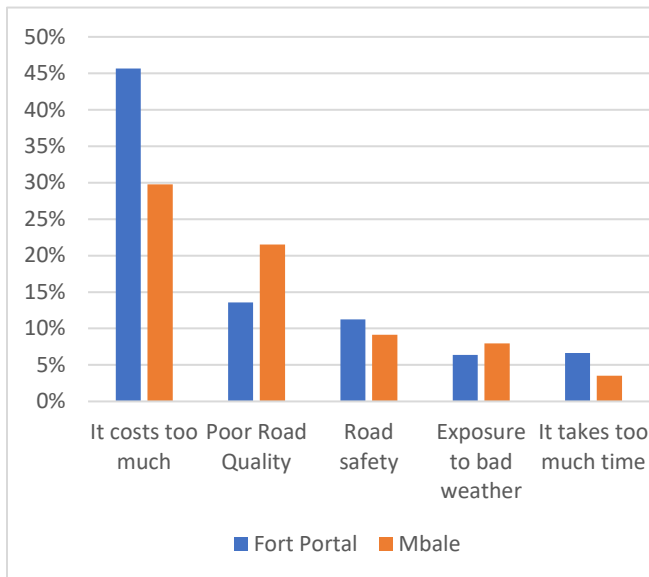


Figure 16. Primary barrier to job accessibility

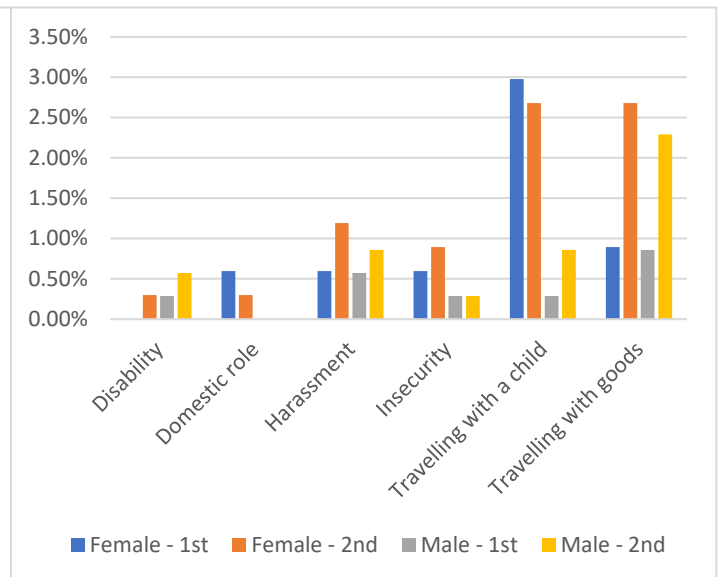


Figure 17. Barriers to accessibility

Regarding gender roles, 2.8% of female respondents noted travelling with a child as a primary difficulty in getting to work, compared to only 0.3% of male respondents. Another 0.45% of respondents – or 0.9% of female respondents - noted that gender roles presented a barrier to getting to work.

Specifically, several female respondents stated that “house duties” and “attending to my retired husband’s needs” were presenting a major obstacle to travelling to work.

Interestingly, I did not find a significant difference between female and male respondents reporting concerns about the cost of transportation.

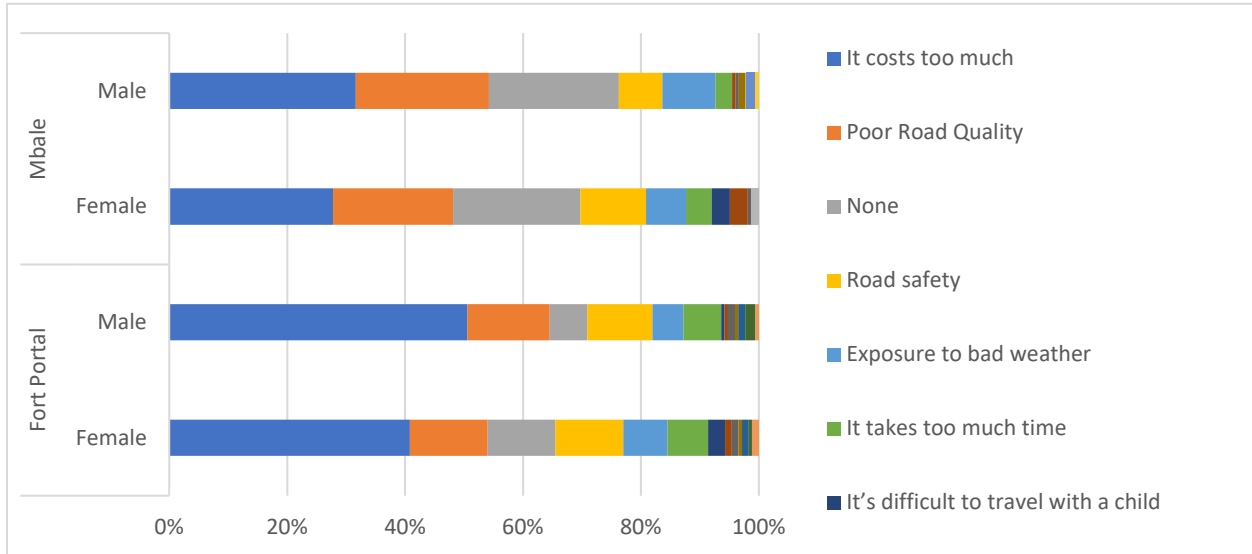


Figure 25. Primary barrier to accessibility by gender and city

Alternative Modes

To understand resident’s modal choices, respondents were asked what would have been their alternative and why they did not choose the alternative. The dominance of walking and boda bodas was again reflected in respondents’ answers – in total, 85% of walking trips could have been boda boda trips, and 73% of boda boda trips could have been walking trips.

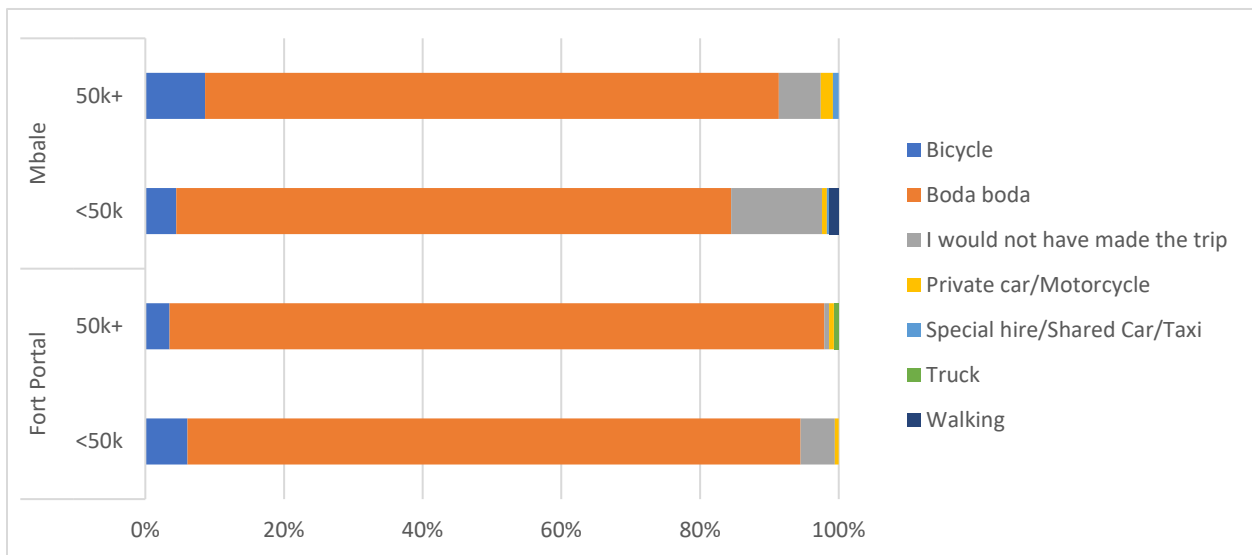


Figure 18. Alternatives to walking by income

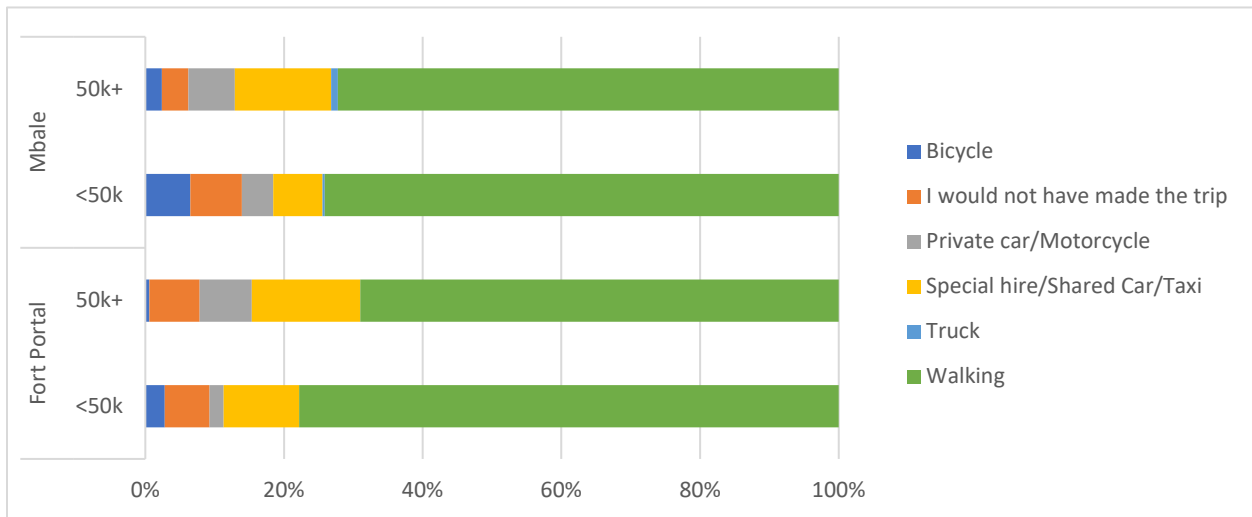


Figure 27. Alternatives to boda boda by income

Why do people walk?

Respondents were asked why they didn't use the alternative mode and were allowed to select multiple responses. In general, respondents tended to choose walking over alternatives because alternative modes were more expensive and destinations were within walking distances, while respondents chose boda bodas because they were more convenient. Other motorized modes in comparison to boda bodas, however, were perceived as unavailable for use on 67% of trips made by boda.

In both Fort Portal and Mbale, residents walked rather than took bodas primarily because destinations were perceived to be within walking distance and to save money. Residents of Fort Portal and Mbale were again strongly comparable in their reasoning to take bodas rather than walk – that bodas are quicker than walking, and less effort. For travelers considering travelling by taxi or special hire, lack of

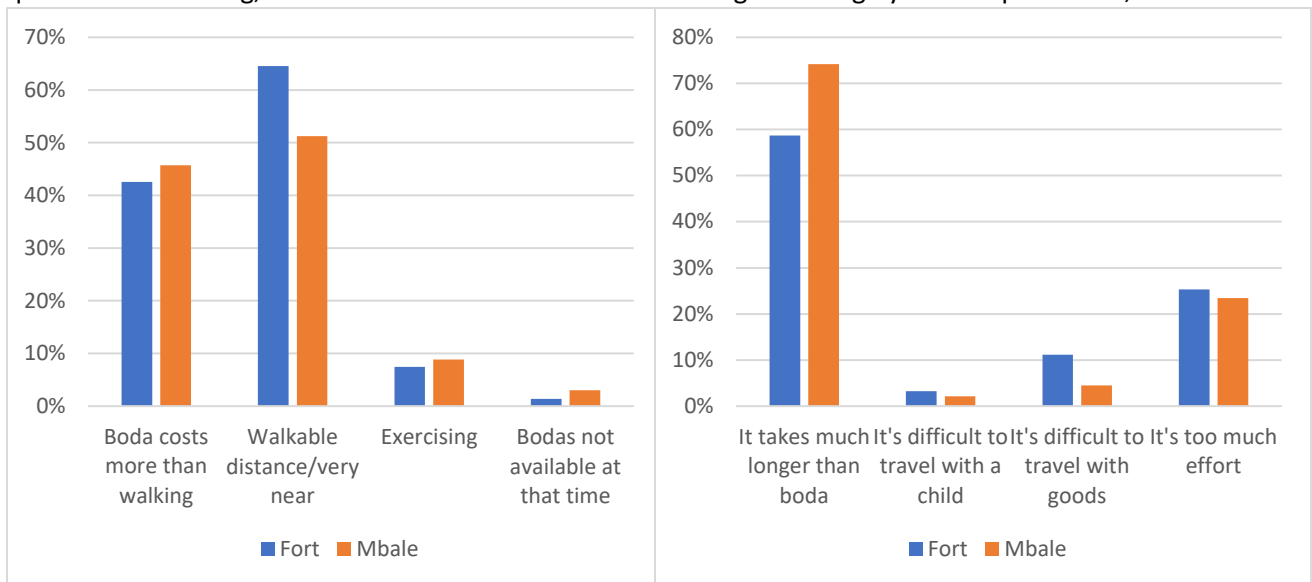


Figure 28. Reasons for walking rather than boda

Figure 29. Reasons for boda rather than walking

availability was the primary reason respondents noted for not taking four-wheeled options, followed by cost.

It is also clear that individuals making less than 50,000 a week are more disturbed by boda boda costs. Respondents making less than 50,000 were 1.7* as likely than respondents making more than 50,000 to cite cost as a reason they walked (95% CI: 1.2340 – 2.3676, p-value = 0.0013).

Gender diversity was also noted within and across the cities, with women in Fort Portal slightly more concerned about money than men, while the opposite was true in Mbale. Across both cities, however, men were about twice as likely as women to walk for reasons of exercise.

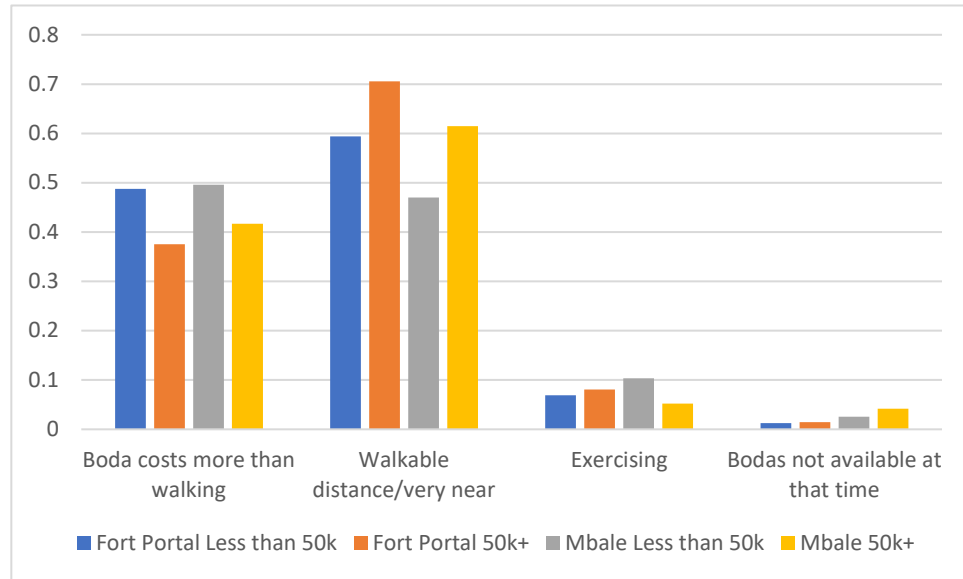


Figure 30. Reasons for walking rather than taking a boda by income bracket

Results

Conclusion

Walking and boda bodas are the primary means by which people travel around Fort Portal and Mbale. Boda bodas are chosen for their speed and convenience, while walking is chosen for short distances and being costless. Costs are higher for short distance trips and at certain times of the day and are a higher concern for low-income individuals.

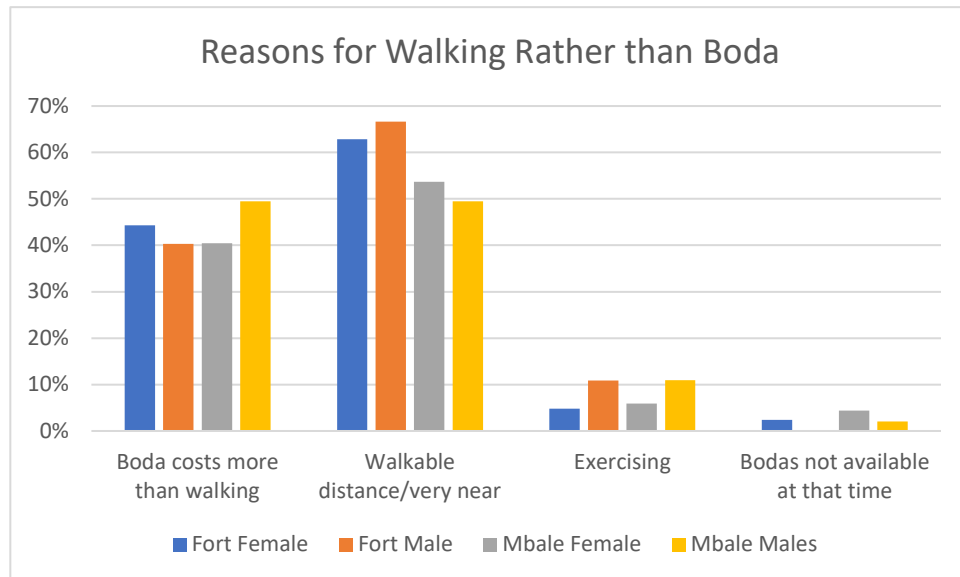


Figure 31. Reasons for walking rather than taking a boda by gender

Discussion: Placing the Numbers in Context

Demographics

There is scant information on income in Fort Portal and Mbale. However, census data shows higher access to services in Kabarole District (home of Fort Portal) than in Mbale District. Additionally, Kabarole District is known to be significantly more rural than Mbale, though both have relatively high population densities.

Understanding the Costs

The most noted issue by individuals was the cost of transportation, with 45% and 30% of respondents in Fort Portal and Mbale respectively noting costs as the primary barrier in travelling to work. This could be a reflection of work practices – that people with consistent, formal work are more accepting of the cost of transportation than those who have less consistent work and stay in rural areas. This is borne out by the fact that those making work trips were less likely on average to cite cost as the primary barrier to accessibility.

Additionally, the cost of boda bodas was noted as a reason to avoid boda boda trips for 41% and 48% of respondents trips in Fort Portal and Mbale respectively, only behind destination walkability as a reason for avoiding boda bodas. Interviews with key stakeholders repeated this claim and brought to light a wide range of repercussions from the perceived unaffordability of travel.

What Do Boda Boda Trips Really Cost?

Interviewees and personal experience indicated that in both Mbale and Fort Portal, trips within an area roughly the size of a parish – i.e. 1-2 km distances, cost a standardized 1,000 UGX (\$0.28), while trips to neighboring parishes can be around 2,000 UGX. Trips farther afield – fifteen minutes or more – were likely to require more negotiation. Going below 1,000 was only found in a single circumstance in Fort – but was found to have happened more commonly in Mbale (ten times). However, there are several other factors impacting pricing.

What Defines Pricing?

The pricing of transportation services in Mbale and Fort Portal are defined by a wide range of characteristics. The floor price of transportation services is broadly what is needed by drivers to pay their costs and taking something home to their families – however, drivers can still give below market rates in the spirit of mutual aid.

Boda drivers costs

Interviews with boda boda drivers revealed considerable daily costs, including motorcycle rent or lease payment, fuel, maintenance, and several informal and inconsistent organizational costs. In Fort Portal and Mbale most drivers pay UGX 10,000 (\$2.8) every day in rent, five or six days a week, depending on the agreement with the owner. Fuel expenditure depends on distance driven but can cost around UGX 5,000 to UGX 10,000 (\$1.4-\$2.8) a day. Maintenance costs are highly variable but significant.

There are many other costs associated with working as a boda boda driver that are highly inconsistent. Joining a stage can be quite expensive, costing between UGX 150,000 and 1,000,000. This is often paid in installments over months of work. Some of this can pay back over time when new entrants pay to join the stage and some of the money is shared with current members. Fines and police extortion is another

variable cost for boda boda drivers, ranging from UGX 5,000 (\$1.4) for a minor run-in to UGX 150,000 to release a motorcycle impounded over a major offense.

Distance of travel

The most fundamental factor in pricing is simply the distance to the destination and the associated cost of fuel. Boda boda drivers are known for having strong mental maps of the areas they work within, but aren't necessarily used to using either digital maps or metric measurements to a high accuracy. Instead, distances are estimated with the names of neighborhoods, roads, and landmarks. This can result in conflict when a price is settled on to reach a certain neighborhood, but the passenger is going farther into the neighborhood than the driver had imagined or understood, and the driver comes to feel cheated (boda boda association leader, Fort Portal). One boda boda association official expressed significant concern at this issue and mentioned plans to create a ride-hailing app that would automatically calculate the fare, though this would face significant barriers to adoption (boda boda association leader, Fort Portal).

Supply of drivers

The perceived oversupply of boda boda drivers was cited by drivers as a factor depressing boda boda rates. Oversupply is known to reduce prices by creating stiff competition amongst transportation operators, allowing passengers to abandon negotiations with a driver deemed to be offering too steep a price and find another in a quick period. This was also recognized by a special hire taxi driver, who claimed that the number of operators had doubled in the last 4 years, and that it was hurting his earnings as a result. A boda boda driver in Fort Portal reflected on this issue:

Motorcycles have become many in town...for our work it has become a challenge. There are many motorcycles and the customers are little. Everyone has to struggle, and you have to press deduction. ...and fuel by the way has increased...also you can't leave someone who is going to town for one thousand and someone is going for free...it is a challenge. Every day there are new members. – boda driver, Fort Portal

However, there are no attempts nor seemingly much appetite to try to limit the number of boda boda drivers on the roads. The only regulatory bodies with any power to control entrants are the boda boda associations, yet they are not incentivized to try to limit numbers of drivers. In Fort Portal, for instance, the Kabarole Boda Boda Association makes 65,000 UGX (\$18) from every new entrant, while in Mbale boda riders are reportedly charged 10,000 UGX for the creation of an ID while also sustaining themselves by "arresting" errant boda drivers and charging them fines (boda boda drivers, Fort Portal & Mbale). Yet neither association has formal recurring monthly or annual fees.

Time of day

The travel diary survey found that cost per duration varied significantly across the time of day. Drivers, passengers, and stakeholders revealed that this was largely due to three factors: the direction in which drivers are moving, the level of passenger demand, and the Covid-lockdown curfew.

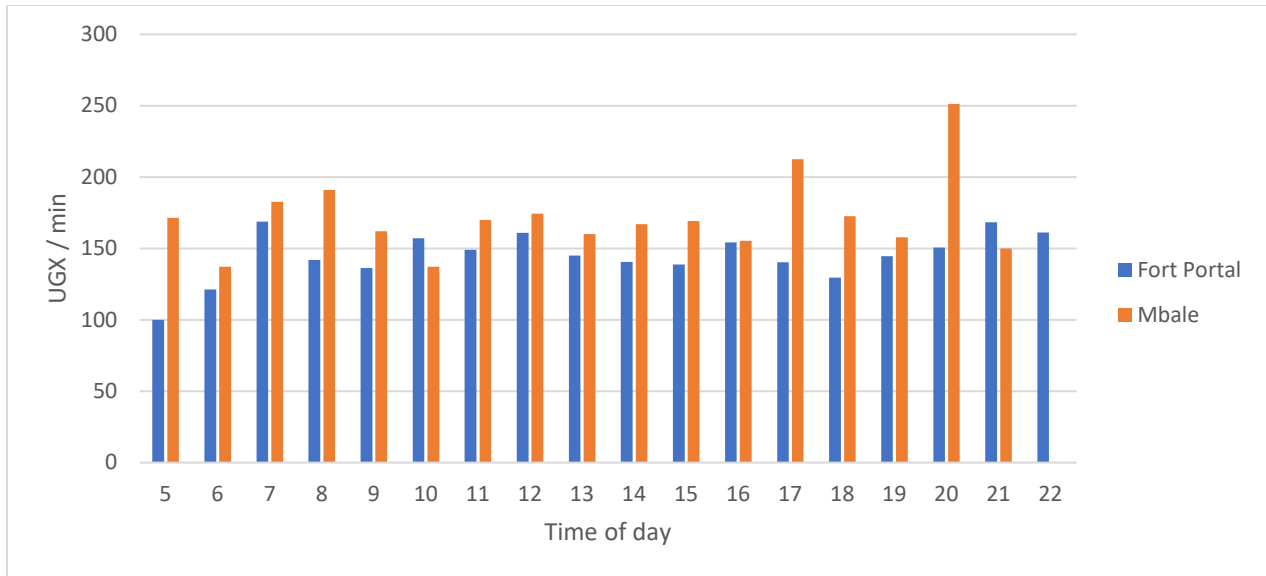


Figure 32. Travel cost across time of day.

The time of day also tends to overlap heavily with passenger/driver shared destinations. Both passengers and drivers tend to live outside of downtown and commute into town in the early morning hours and make the reverse trip in the evening. This means for drivers, the majority of whom are believed to be based at stages in the downtown and would be driving there regardless, any passenger is better than none. Charges in the middle of the day can then rise because it is not a part of the regular flow. A driver in downtown travelling to the peri-urban residential neighborhoods can charge higher costs in the middle of the day because they consider it less likely to be able to pick someone up coming back into the city.

“...when I reach town then you say you take me back, I may need something beyond that [price], because I’m counting the going and come back, I’m taking [you] and I have to come back. But in the morning I can take at one thousand because I’m going to work also. Then in the evening I’m going back to sleep I have to take you in the money you have, even if you say ‘my brother, now, I am broke, I don’t have money’... I may still take you, free of charge, because I’m going where you’re going.” – boda driver, Mbale

High passenger demand, another key feature of commute time trips, can push both ways. The easy availability of passengers at commute times can make drivers more open to lower prices, as good supply of passengers is perceived (boda boda leader, Mbale). However, the perceived desperation of some passengers at these times, particularly those working in formal employment with starting times, can make drivers more likely to press for a higher price (boda boda driver, Mbale).

The curfew, which was 7 PM to 5:30 AM for most forms of transport but 6 PM to 5:30 AM for boda boda drivers, was seen to be harshly enforced by drivers (boda boda drivers, Fort Portal & Mbale). While the main punishment for boda boda drivers operating after 6 PM was seen to be being forced to pay “fines” or bribes to policemen for 20,000 – 50,000 UGX, there have also been multiple cases of police officers

shooting and killing drivers and passengers moving past curfew hours.⁴⁵ Driving after 6 PM is thus seen as risky, though many drivers continue to operate until 7.

The danger thus associated with carrying passengers after 6 or 7 is therefore cause for increasing the price (boda boda driver, Mbale). However, this may be negated by the fact that most trips around these times are drivers last trips, and that drivers are often also moving towards home, away from the city, thus depressing their asked price (boda boda driver, Mbale). Drivers and others indicated that nighttime travel could be more expensive prior to Covid as well, so though the threat of violence and extortion may dissipate for drivers when the curfew is released, nighttime costs should not be expected to decrease significantly – though ability to move to one’s destination at such hours may otherwise improve.

Weather

Weather, especially rain, was also cited as a factor contributing to price increases. Both the rain and the muddy roads create difficult working conditions for drivers. Drivers try to avoid working in heavy rain, but when passengers insist, drivers can charge extra for the difficult conditions (boda boda driver, Mbale).

Lubyanza/stage (and direction)

Another key factor in transportation pricing is whether the boda boda was found while driving – known as *lubyanza* – or they were found at a stage. Stage drivers are perceived to be significantly more expensive than drivers found on the road. This is because if a boda operator is based at the stage, they must calculate the fuel used for the return trip. A driver on the road, however, may be coming from just dropping someone, and therefore have less solo driving time to include in the passengers pricing.

All *lubyanza* trips, however, are not the same. Another key factor in defining the price of a *lubyanza* trip is the direction of the boda at the time of pickup. If a boda was already driving somewhere – say, back to their stage, or back home – and the passengers direction is in that general direction, the driver is likely to accept a lower price as the trip was going to be made anyway. This can align with the issue of time of day.

This also applies to taxis and shared cars. Drivers and conductors typically try to fill their vehicles while at the stage to maximize profit, but after dropping someone along the route a space opens up. The operators then calculate that it is better to have someone fill that space for half the price rather than have an empty seat, and are thus more likely to be open to a customer negotiating a lower price. Additionally, taxis are supposed to be operating out of the designated taxi parks, but operating from the park comes at a cost. As a result, operators will often find a space nearby but outside the park to save on costs, thus allowing them to pass on some savings to passengers.

Relationship

The relationship between the driver and the passenger was also cited as a fundamental definer of pricing by multiple respondents (boda boda & special hire drivers, Mbale & Fort Portal). When someone is perceived to be a newcomer to the area, which can be linked to being upper income, drivers can raise their prices (boda boda driver, Mbale). When the passenger becomes known to the driver, however, and

⁴⁵ Wambede, “Mbale Riders Appeal to IGP Over Police Brutality.”

can be a repeat customer, the driver can be more open to lowering their prices (boda boda & special hire drivers, Mbale & Fort Portal).

How does Cost affect Accessibility?

The survey demonstrated that respondents regularly chose to walk rather than take bodas due to the cost of bodas. The burden of walking is complex: it is avoided because it is viewed as taking too much time and requiring too much effort. This is exacerbated for travellers with children and disabled people.

Transportation costs also cut into household budgets, which can be particularly key for women. Interviewees described women's home responsibilities including the need to ensure that there is food on the table at the end of the day, creating more difficult spending choices for women.

Costs can also endanger women by encouraging them to take *lubyanza* bodas rather than stage bodas, thus exposing them to increased risk of assault and minimizing the chances of holding perpetrators to account. This will be explored more fully in the next section.

Gender Norms as Barrier to Accessibility

Survey results found that women took significantly more boda boda trips than men in Mbale, yet the opposite was true in Fort Portal. When asked about this, many respondents in Fort Portal expressed surprise, noting that they felt there would be more women taking boda bodas than men. Upon examination of the parish-specific gender inequity, however, it became clear that this was largely due to the varying levels of urbanization in the two cities: women in the two downtown Fort Portal parishes of Bazaar and Rwengoma took significantly more boda trips than men, while the lower density outer parishes again had significantly more men than women.

Gender Roles (Breadwinner / Homekeeper)

The gender roles which describe women as primarily homekeepers and childcare providers were revealed to have a significant impact on women's accessibility, beyond what was measurable by the survey.

The income inequalities noticed between men and women were particularly strong in Fort Portal, but not noticeable in Mbale. A local government official in Fort Portal noted that "Traditionally, women keep home. They are housekeepers. Then also the income group, generally from the national statistics, men [tend to] earn a little more." (urban planner, Fort Portal) A female boda boda driver in Fort Portal

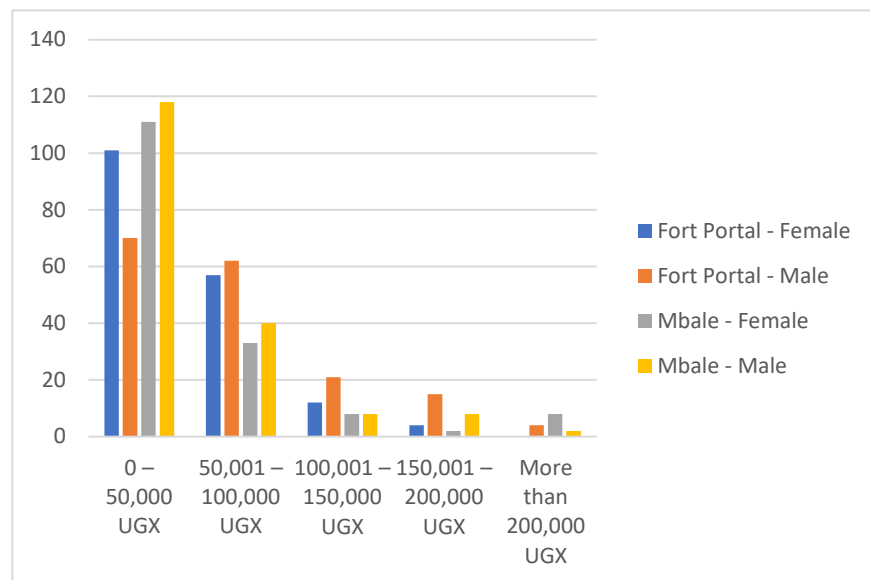


Figure 33. Respondents income by city and gender.

described men as envious of women, and thus trying to keep them “in the kitchen.” (boda boda driver, Fort Portal)

Vehicle Ownership

Gender roles affect transportation in other ways as well. By assigning greater parenting responsibility to women, women are required to be more “economic” or financially responsible as they must ensure there is food on the table at the end of the day. However, women’s responsibilities at home also means they need to save time, which is often the primary compunction behind choosing to take a motorized form of transportation. Additionally, even when women gain ownership over a vehicle, “the man or the brother will take it away from her,” (urban planner, Mbale).

However, many participants noted that these gender roles are changing. Women are seen to be increasingly involved in business, which makes them increasingly mobile. This is particularly evident in the urban-rural divide.

Staying at Home

Women’s restricted mobility was found in the smaller number of trips made by women than men. This was described by respondents as being a function of domestic responsibilities and male control. A woman working at a motorcycle leasing company said that many married men “feel their women should stay indoors or do small small businesses that keep them home,” (boda boda lease company employee, Mbale).

Gender	Fort Portal	Mbale
Female	2.67	2.79
Male	3.15	3.20

Table 6. Average daily trips by gender.

Moving With Kids

Women were three times as likely as men to be accompanying children on their trips, and these childcare responsibilities were described as a burden in both the survey and interviews. 6% of women’s boda trips in Fort Portal were made because of the difficulty of walking with a child, compared to less than 1% of men’s boda trips. In addition, 6% of female respondents noted travelling with a child as a barrier to accessing work opportunities, compared to less than 1% of men describing it as an issue.

Moving with children is more cumbersome than moving alone. However, not only are women travelling more with children, they are more likely to notice it as a difficulty – likely a reflection of the fact that men are more able to opt-out of accompanying children. Men describing travelling with a child as “disturbing” and as an indication that “no woman is at home.” (boda boda driver, local NGO worker, Fort Portal) Women typically sling babies on their backs, but this means of transportation is culturally off-limits for men. Importantly, however, the means of travel with a baby are not the same for men and women. At least one respondent noted the possibility that women move with children to help share the burden of moving goods, which has happened in other parts of rural Africa.⁴⁶

Financial Pressures

While overall respondents were found in Mbale to not have significant gendered income inequality, this was revealed to be a function of the inclusion of respondents from outside of the municipality. When only municipality-based respondents were included, gender inequity increased significantly.

⁴⁶ Porter et al., “Child Porterage and Africa’s Transport Gap.”

Cultural Diversity and Gender

Gender roles were perceived to be influenced heavily by different cultural influences. Batooro and Bagisu cultures, for instance, were both described by respondents as being more socially conservative and less hospitable to women ridership, while Bagwere and Itesots (both more present in Mbale) were noted to be more likely to embrace women's ridership of two-wheeled vehicles (local NGO worker, Mbale). One respondent also spoke at length about perceived differences between the cultures of Fort Portal and Mbale.

Some communities, like in Western...they have adopted negative cultural norms that women are not supposed to participate like move out of homes to go and do certain things. Whereas here [Mbale], women move out of homes to go, most women here go to gardens, mostly women participate in gardening, women who participate in going to sell out small things to generate income for homes, women play a very big role in this region. (local NGO worker, Mbale).

Safety

Women deal with safety risks from two sources – strangers on the road and transportation operators themselves. Women face a heightened risk of assault at night, along unlit roads, and by boda boda drivers and other transportation operators (urban planner, Mbale). In one case, a respondent told the story of a woman from out of town who took a boda boda from a stage, who then attempted to rape her. She made noise and people came and helped her, and because the driver was from an identifiable stage she was able to get him arrested. In another case, however, a woman passenger who had taken a *lubyanza* driver who similarly attempted to assault her was only rescued by a passing car (local NGO worker, Mbale). Safety is thus an additional burden for women and as something that weighs on the mind of women's transportation choices, acts as an additional barrier to accessibility.

Cultural Resistance to Riding

Women's safety is also impaired by the common means of sitting sideways on motorcycles. It was noted that sitting side-saddle is a logistical response when wearing a skirt – either so as not to expose oneself or not to tear or stress the skirt. (local NGO worker, Fort Portal) Most commonly, though, sitting side-saddle is a cultural expectation - how a woman sits on a boda boda can be seen as an indicator of how she was brought up, described as “respect” by several interviewees. Though no one noted sitting side-saddle as an impediment to movement in the survey, it was described by several interviewees as being less safe than sitting “like a man” with legs astride and as a cause of high accident rates for women (urban planner, Mbale). Specifically, sitting side-saddle is less secure, and fast driving or potholed roads can then pose a larger danger for side-saddle passengers. These factors can also create heightened risk for women on the road.

Informality

Informality is the norm of transportation in Uganda. Besides the roads, virtually none of the transportation is planned or directly publicly-funded in Uganda. While this informality has allowed the invention and thriving of boda bodas and matatus as tools for extending accessibility from downtowns to villages, it also creates limits to improving the system, as well as sometimes directly creating inaccessibility.

Lack of planning for informal transportation

One of the primary means in which this informality hampers its own improvements is the ways in which transportation is simply absent from planning documents. Frustration from boda boda associations is evident; one member of leadership claimed that “they don’t even consider us. I just survive on our own...no provision for boda boda parking, no provision for what.” (boda boda leader).

The 2019 Mbale Municipality PDP does call for an assessment and mapping of transportation infrastructure. A traffic survey included in the report found motorcycles to be such an overwhelming portion of road vehicle traffic – 67% to 93% of vehicles across 13 survey points – that in many cases, surveyors maxed out at 800 motorcycles. Yet the only mention of boda bodas is to acknowledge that they are the most common means of motorized transportation.

However, a few local NGOs asserted this was improving with the new City Development Forum. They identified at least one barrier to engagement being a lack of organized leadership on behalf of the communities, preventing them from being recognized as legitimate representatives by the city.

Siloing of all Institutions

This culture of siloes extends beyond the local government to the transportation operators themselves. In Fort Portal, for example, the Kabarole Women’s Boda Association claimed that the umbrella men’s group did not include them in any of their planning or activities (boda boda driver). This lack of coordination was also evident in the Kabarole Boda Association leadership assertion that women had received their motorcycles for free, which was strongly refuted by a woman rider (boda boda driver & association leader).

Irregularities in associations and stages

Without formal public institutions to plan for and manage transportation within the cities, boda boda and taxi associations seem to be largely unaccountable. Associations themselves operate in highly diverse manners. The Kabarole Boda Boda Association, for example, funds itself by charging new entrants 65,000 UGX. It’s counterpart in Mbale, however, charges only 10,000 for an ID, and funds itself by impounding errant drivers motorcycles and charging them for their release – what should be a prerogative of the state (boda boda driver & association leader).

Politicization of boda bodas

The politicization of boda bodas was described by interviewees as a major barrier to formalization. This is evident from the descriptions of politicians giving away motorcycles from the early 2000s, as well as the 2005 decision to stop municipal taxation of boda boda drivers. Their usage as campaigners was also highlighted, due to their high visibility and ability to reach deep into rural areas (local NGO worker). This means that when motorcycles are impounded or boda boda drivers are arrested, politicians are perceived as being behind their release.

Police involvement

The ambiguity in boda boda regulations makes the role of police enforcement a critical issue. Interviewees involved in the boda boda industry described a complicated relationship. Police officers often use boda boda services, especially to rush to the scene of accidents, and were also described as owners of boda bodas (boda boda driver & local NGO worker). However, police were also claimed to be extorting boda boda drivers, using the high rates of non-compliance with helmet and license laws to stop and fine or extort boda boda drivers (boda boda drivers).

The Covid-19 related curfew was described as much harsher against boda bodas than private car owners, which is particularly a problem as several respondents noted that they took boda bodas at night to avoid the insecurity of walking. Yet violence by police against boda bodas was widespread – in Mbale violence erupted twice in the course of three weeks in early 2021, when first a passenger and then later a driver were killed in the course of enforcing the curfew.⁴⁷ Though the police reported arresting the officer who shot and killed the driver at the time, no report was ever issued and the issue was swept under the table (boda boda driver).

“[Driving past curfew] was very dangerous. Because they had police, the police who have motorcycles. They were using those behind, behind roads. If they get you there, you get a problem. They beat you, they take you to jail, you pay a fine of 150,000. They were using soldiers on roadblocks, but behind the roads they are using police... If [police] get you, they will make sure they have got something from you. ‘You bring the money, where is the money you have in the pockets.’ Like when I are working at night, they used to touch us, for money.” (boda boda driver).

⁴⁷ Wambede, “Mbale Riders Appeal to IGP Over Police Brutality.”

Conclusion & Recommendations

Barriers to accessibility in Fort Portal and Mbale are very complex, but it would be reasonable to say that residents of Fort Portal and Mbale are able to get where they need to, with minimal to no waiting, while facing moderate difficulties with safety and significant cost issues. The most fundamental barrier is cost, resulting from transportation being entirely privatized. Gender roles and inequity present additional barriers for residents of Fort Portal and Mbale. Finally, informality creates uncertainty and insecurity within the transportation industry, providing a major obstacle to reform.

Covid-19

The transportation industry was being significantly impacted by covid-19 lockdowns and curfews implemented by the Government of Uganda at the time of this survey. The survey itself was delayed by several months because of the June-August lockdown. Since the lockdown, and throughout the time of the survey, a 7 PM nationwide curfew and 6 PM curfew for boda bodas has been in place. This has severely curtailed nighttime travel, and earnings by boda boda drivers, as well as severely impacted the economy. Additionally, schools have stayed closed in Uganda since March 2020, which has seen older male students and many teachers join the boda boda industry, while also curtailing education-related trips. The resulting perceived oversupply of boda bodas caused by this economic downturn is an area that needs additional study beyond this survey.

Recommendations

Tackling the barriers to accessibility laid out in this report – namely, the cost of transport, gender inequality, and informality – in a resource-poor, highly-privatized environment requires considering a wide range of solutions. A few will be touched on below.

Registering Boda Boda Drivers

This is one of the oldest, simplest, and most-tested regulatory actions in motorcycle-taxi industries globally. It has been done with significant success in neighboring Rwanda but attempts in Kampala have previously gone awry. The primary aim is to solve the lubyanza vs stage dilemma by providing a degree of security and accountability, while allowing drivers to work in the most cost-effective manner.

Requiring drivers to

- a) register their contacts, stage information, and address (or GPS location), and
- b) wear a reflector jacket with the driver's name, ID number, and stage name.

Legislation could state that this registration must happen through either a government database or a registered ride-hailing company (who would need to be able to release contact details to authorities upon request). The downsides of the ride-hailing company registration are obvious – there are currently no ride-hailing companies operating in either Fort Portal or Mbale, and those that operate in Kampala have run into significant difficulties. Lower smartphone adoption in Fort Portal and Mbale and lower boda boda profit margins present significant barriers to adoption for ride-hailing companies, making this a less-than-optimal choice for city governments to rely upon. For non-app registrations, this legislation would be best served by a combination of high-level endorsements by boda boda associations and stage leaders, and police enforcement – though inconsistent, police enforcement can be moderately effective.

Significantly Lowering the cost of a Driver's License

The cost of the driver's license – 330,000 (\$90) for a new five-year license – was noted by respondents in the boda boda industry as the primary reason for non-compliance with the legal requirement. Lowering the cost of a driver's license to purely the administrative costs of registering and providing IDs would lessen the barrier to adoption and could improve compliance. This change would, however, need to happen at a national level.

Planning With Transporters

Most critical for any attempt at lowering these barriers to accessibility, however, is for the inclusion of transportation operators in planning for and regulating the cities. The 2019-2029 Mbale Municipal Council Physical Development Plan (PDP) only includes a single reference to boda bodas as being “the common means” of transportation for people – yet the same report includes an extensive traffic survey showing that motorcycles make up 67-94% of vehicles across the city. While the entire Fort Portal PDP was not available to analyze, interviews in Fort Portal indicated that a discussion of boda bodas was similarly missing from the PDP, with only a road network map. Some of this could be due to the outsourcing of planning to private consultants based in Kampala and elsewhere – regardless, it is up to the physical planning offices to ensure that transportation operators are included in the planning process and final plans. The new City Physical Development Plan is an opportunity to correct this.

Attempts at improving things

There have, however, been positive steps in the direction of including and engaging boda boda and taxi operators. Mbale's City Development Forum has recently implemented a transportation working group, which at the time of writing was yet to start meeting. While the working group has a representative from the taxi industry, there was reportedly no representation of the boda boda industry. In Fort Portal, there is a transportation sub-committee under the Physical Planning Committee. It is mainly made of technical officers, employees of the city, and there is little indication transportation operators are engaged through this channel.

Engagements should be at all levels. Representation on a working committee is a positive step to establish a consistent channel. There is also a need to ensure boda bodas and taxi operators are represented in the creation of any local regulations. Additionally, the process of roadbuilding also offers an opportunity to work with drivers and create accommodations for stages, to prevent them from being nuisances to road users.

How to Regulate

A 2013 attempt at boda boda registration in Kampala resulted in chaos and under-counting after significant delays.⁴⁸ This was partly due to organized resistance with police support, and partly due to a lack of clarity over what the goals of the registration were for. Additionally, when KCCA did engage with boda drivers, it was only after the initial mass protests and disruption and was with a little-known group that carried no real weight in the industry.

⁴⁸ Walusimbi, “Musisi Reveals Plan to Sideline Bodas, Taxis.”

Moving Forward

In conducting the first survey of travel habits in Mbale and Fort Portal, this study has revealed the travel modes, travel patterns, and barriers to accessibility of residents in secondary cities in Uganda. The cost of transportation is shown to be a primary barrier to accessibility for all residents, as a result of being entirely market based. Sexist cultural norms restrict women's transportation options, resulting in increased danger for women travelers without providing adequate accommodation for women's roles as childcare providers and domestic upkeep. Finally, informality creates both physical and financial insecurity in the sector, while providing a major barrier to reform. To move forward and improve the situation for the residents of Fort Portal and Mbale, authorities must first fully and sincerely include transportation operators in planning for the cities.

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