How to build a bus route: Improving accessibility with informal transport operators in Kampala, Uganda

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- "Informal" or private-sector public transport is critically important for mobility in many cities but can be limited in the coverage provided. Operators are constrained by low and unpredictable incomes, little access to credit, and limited information and managerial capacity. They face challenges expanding routes, and some neighbourhoods and destinations may go unserved, despite passenger needs.
- To test whether there are gaps in the provision of services, we ran a pilot project which subsidised existing operators to provide services on a new route in Kampala, Uganda. We ask whether there are useful, profitable minibus routes which are not currently operated.
- Together with the Uganda Transport Operators Federation (UTOF), the initial investment of starting a route – the cost of fuel and drivers' time until passengers took it up – was subsidised. This allowed operators to experiment in new locations, with new passenger groups. If successful, this approach "seeds" new services without need for continuous subsidy, while limiting the risk for the driver.
- The new service was disproportionately used by women, particularly market and street vendors. It reduced costs and travel times, and improved safety.
- A section of the route continues to operate (as of 3 months post-investment) following just 3 weeks of partial subsidy. This creates a new connection for passengers, but also increases incomes for the operators, without lowering frequencies on existing routes.

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Introduction

Privately provided or “informal” transport is the dominant form of public transit in many African cities. In Kampala, Uganda, it accounts for 99% of mass transport (Behrens et al., 2015). These services are usually operated by many small entrepreneurs, often organised into associations and cooperatives who coordinate aspects of operations. (Kerzhner, 2023; Plano, 2022).

While of crucial importance to mobility in many cities, there are also shortcomings. In the sector itself, this includes exploitative and difficult working conditions for drivers, who operate on targets they must meet for the owner of the vehicle, regardless of daily income (Kumar et al., 2021; Mũngai, 2013; Rizzo, 2017). For passengers, it means vehicles are often overcrowded, prices can be high, and safety and maintenance are poor. The geographic coverage and accessibility provided can also be limited, requiring multiple transfers, long walks or lack of access at all (Behrens et al., 2015; Campbell et al., 2019; Massingue & Oviedo, 2021; Nakamura & Avner, 2021; Otunola et al., 2019). This may push passengers to the use of often-dangerous, inefficient, and more expensive motorcycle taxis (boda-boda).

For operators, starting a new route requires several months operating at a loss. Finding funds to cover even part of drivers’ expenses is difficult to organise and requires significant buy-in from multiple drivers. They may be required to operate on a fraction of their usual earnings for months, which, with daily leases and fuel costs to be paid, may literally mean going hungry (see Kerzhner, 2023, for a wider discussion).

Policy responses to these issues have been limited and difficult. Cities may work to completely ban minibuses, or to re-organise them around new investments such as bus rapid transits (BRT). This meets with resistance – including violence – from operators, who are left either without work at all, and required to operate in unprofitable locations without support. Cities rarely offer sufficient replacement services for passengers, and informal operators become competitors rather than complements, undermining both (Joseph et al., 2021; Ndonga, 2018; Schalekamp & Behrens, 2009).

To address these issues, this pilot project had several goals:

- It proposes an approach to improving an aspect of transport services, without coercive reforms or formalization efforts**, by offering a temporary, gradually phased-out subsidy to operators to test a new service**. **This is a low-cost, light-touch intervention, which supports operators to improve services, rather than fighting them**.

It provides insight into demand for service expansion, particularly in identifying mobility gaps by gender, income, type of employment, and residential and work locations.

Research questions: Coordination failures and equity in competing transport services?

Informal transport operates without subsidies by state or city government, and without centralized planning. Operators are also usually atomized, and each vehicle is a separate business even within associations. This leaves the accessibility and coverage provided across cities a subject of competitive markets and internal regulation. In some cities, including Kampala, operators organised into associations exert a degree of regulation on specific routes, while in other cities each driver can choose which routes to operate, on a daily basis, and there is little route-based organisation (Kerzhner, 2023).

Some studies suggest that in such systems, services over-concentrate in central, reliable locations, serving the densest section of the market (Gomez-Lobo, 2007; Kerzhner, 2022; Klein et al., 1997). Other locations, including low-income neighbourhoods and growing peripheral locations, receive limited services, despite demand (Campbell et al., 2019; Nakamura & Avner, 2021; Peralta-Quiros et al., 2019), or requiring multiple transfers or long walking distances.

Coordination failures (Rodriguez-Clare et al., 2005) may emerge at the city-wide level. For competing operators, raising funds and organising multiple vehicles to start a new route is slow and difficult. This means too many drivers cluster on established routes, leaving both passengers and drivers worse off. If there are gaps, can we understand which locations and passengers are most affected?

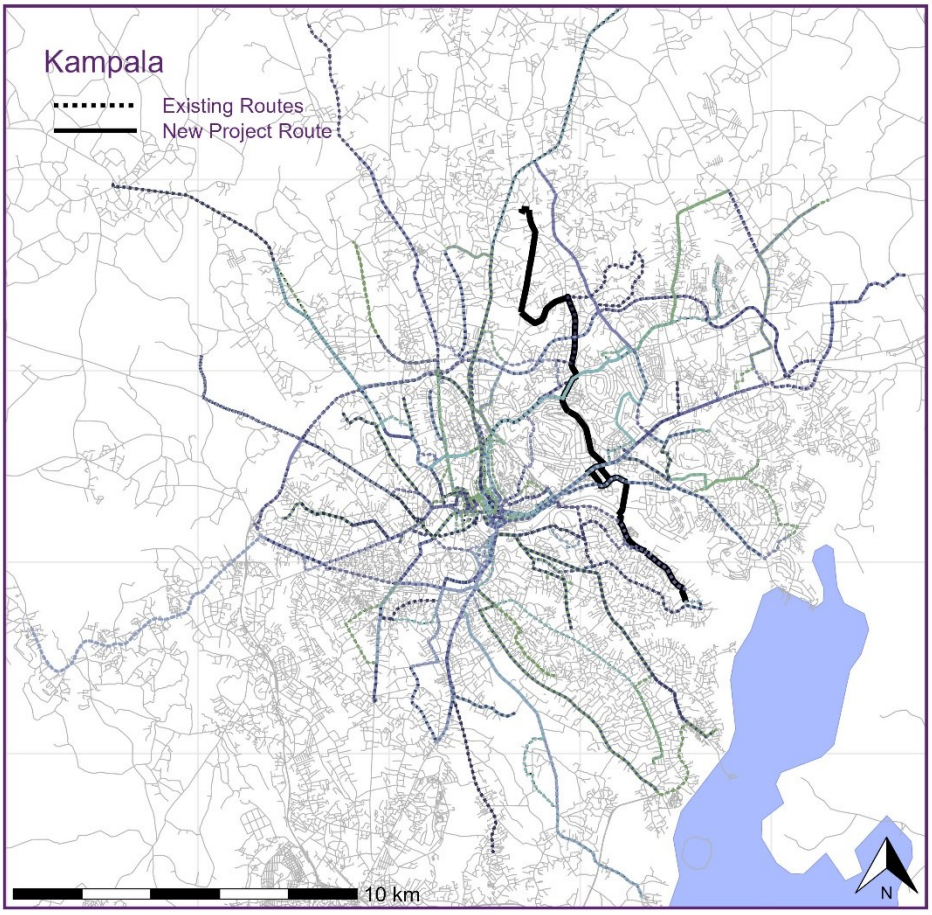
Methodology

To test these questions, we developed a simple intervention, working together with the Uganda Transport Operators Federation (UTOF). We co-designed a new route with operators, which bypassed the congested city centre[1] and provided connectivity between a number of key locations – industrial area, residential locations, and markets. After considering several proposals with UTOF, we tested the route with managers and drivers in the industry, making further changes as needed, and finally following passenger requests once the route had started operations. We recruited drivers operating on two existing routes to divert to the new route, and subsidised their initial operating costs, gradually decreasing as passenger numbers increased. Otherwise, we

[1] A survey for the Greater Kampala Multimodal Transport Plan found that 61% of travelers in the central taxi park were there only in order to make a transfer (KCCA et al., 2018).

maintained the norms of other routes – vehicles departed when drivers judged there were enough passengers, stopped along the way to pick up more, and drivers continued to pay their usual daily leases and fees. City authorities and local council leaders in the neighbourhoods through which the route operated were also notified and consulted.

FIGURE 1: Kampala, existing minibus routes and new project route



Data source for routes: Transport for Cairo et al., 2020.

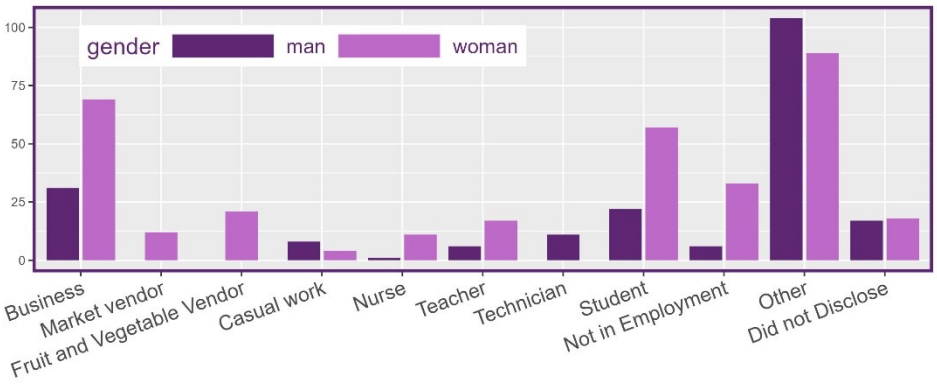
Results

With a total budget of 30 million Ugandan Shillings (about $7000), we were able to subsidise ten to six vehicles per day to operate along the new, 17km route, for 22 days. Subsidy per vehicle per day started at $60, which included all expenses – lease payment to the vehicle owner, fuel, security, and take-home pay for the driver and conductor – and declined to $40 by the end of the project.

Following withdrawal of these subsidies, the UTOF associations involved independently continued to operate the southern third of the route permanently. The initial pilot allowed the associations to ascertain which locations had a reliable passenger base by setting up relatively frequent operations, which individual drivers did not have the resources for. This included investing their

own funding into signage, management and securing the operating rights within a wholesale market, and shifting vehicles operating on their existing routes to the new one.

FIGURE 2: Number of passengers using new route by occupation and gender



Gender and equity implications

The pool of new passengers was disproportionately made up of women, and women passengers were almost twice as likely to have switched from walking to using the minibus route than men were, while passengers switching from taking minibuses with a transfer or from taking motorcycle taxis were similar.

The route was particularly popular with female street and market vendors and other small, informal businesses. They rely on multiple trips per week to the wholesale market for their goods, for which motorcycle taxis are often expensive, inconvenient, and physically poorly suited – including traveling in rain, heat and often with bulky goods. The price of a motorcycle taxi was reported as 5,000 to 15,000 shillings ($1.3 to $3.9) compared to 2,000 to 4,000 for the minibus ($0.5 to $1).

> ***…one can bring things from Nakawa [wholesale market], when they are many and not spoilt and you can't get a loss. On a boda-boda the things are compacted, and things like bananas get spoilt…and you can save some money. Boda-boda are expensive and take all the profits.***
>
> *Vendor using new minibus, Interview*

The lack of transit connection may suggest that some locations and types of travel, despite nearby terminals and routes, are underprovided. This may be due to information frictions – between a largely female population of venders and the largely male transport industry - or because starting non-radial routes, which do not pass through the city centre, is riskier without a central terminal to lean on. The impact of limited transport options for certain livelihoods and

patterns on mobility needs further investigation, focusing on urban agglomeration effects and economies of care.

For planners, regulators and policymakers, this approach suggests a relatively simple approach to engage with both informal transport operators and with urban residents reliant on public transportation. This study recognises both the importance and professional needs and capacities of operators, but also the challenges they face and their inability to provide for all the city's transport needs without support. It allows a small-scale expansion of services for underserved communities, as well as a method for re-organising informal operators when needed with larger investments, such as BRT – rather than leaving them on the sidelines.

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