

Mobility in Complex Informal and Low-Income Cities During COVID-19: Perspectives From Northwest Nigeria

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Keywords	COVID-19, mobility, resilience, informality, low income
City Population (Metropolitan Region)	Sokoto - 840,000, Gusau - 291,000, Birnin Kebbi - 270,300
City Area (Metropolitan Region)	Sokoto - 73 km ² , Gusau - 34 km ² , Birnin Kebbi - 29 km ²
City GDP (per capita)	5,860.3 USD
Climate Zone	Aw (tropical savanna/dry winter) & BSh (hot semi-arid)
ARC3.3 Linkage	COVID-19, Cities, and Climate Change Element

Introduction. In this case study, the dynamics of intra-city mobility in informal and largely low-income cities during the COVID-19 pandemic are discussed, using examples of three cities - Sokoto, Birnin-Kebbi and Gusau, located in North-western Nigeria. In 2020, the three states of Sokoto, Kebbi and Zamfara had confirmed COVID-19 cases of 822, 480 and 375 respectively (Nigeria Centre for Disease Control – NCDC, 2022). Issues addressed in the case study include the nature and sensitivity of intra-city transport in low-income informal settlements, climate change resilience in low-income informal economies, and a description of the mixed experiences in terms of intra-city mobility during COVID-19.

Intra-city public transport has a number of key stakeholders such as the passengers, the operators (who are in most cases different from the owners of vehicles), owners, and regulators. Passengers ordinarily wish to pay less and commute comfortably. The operators want as much overhead as possible to provide some surplus above their daily savings, in many instances to the detriment of passenger comfort and fare-affordability in low-income societies. The owners on the other hand would be more interested in making profit on their investment as quickly as possible, while the regulators and policies are there to provide a reasonable balance to all parties involved. Thus, in the provisioning of public transport, conflicting interests of different stakeholders must be negotiated.

The common features of public transportation in African countries are predominant use of paratransit vehicles such as motorcycles and tricycles (rickshaw),

which are often overloaded, have insufficient drivers, and poor mechanical maintenance. (Joewono & Kubota 2006). Low-income populations, who are the main users of paratransit are largely impacted by the mobility choices available to them. The notion of low income itself is characterised by a situation of deprivation, where choices are limited to warrant the prioritization of comfort or concern for the environment (Gaitani et al., 2014; Kelly & Fussel, 2015; Santamouris, 2015).

Different variables that facilitate or hinder mobility and accessibility are related to the nexus between mobility, accessibility and poverty. These variables include transport opportunities, institutional configurations, individual characteristics and urban form at the city level and household income at the individual level (Hernández, 2017). Under low-income situations, strategies that will necessitate an increase in transport fares can be difficult to institute, no matter how potentially prosperous they are in the long run.

Low-income populations respond to transportation issues often by compromising comfort and safety so as to reduce cost and improve accessibility. Ensuring safety and comfort of commuters thus requires strong and sustained institutional action in low-income populations, more so during external threats and hazards.

Brief History. The situation, policies, and governance structures for transport are quite similar among cities in Nigeria and reflect a number of unique characteristics. These characteristics include policy issues emanating from the lack of technical capacity of the local governments to manage the non-compliant, yet politically powerful private sector transport service providers, very high demand growth for services, limited capacity of commuters to pay for services, rapid spatial expansion at the urban fringe, high rates of unsafe motorization and the residual effects of a long-standing policy of petroleum subsidies (Pojani & Stead, 2017).

The interplay of these variables gave rise to the dominance of tricycles and motorcycles (even though motorcycles are banned in some cities in response to current security challenges) as the easy options. These two commonly available and utilized modes are organised under a trade association known as the National Commercial Tricycle/Motorcycle Owners and Riders Association (NAC-TOMORAS). Just like the National Union of Road Transport Workers (NURTW) in the case of inter-city transport,

NACTOMORAS is concerned with the welfare of its registered members rather than regulating the operations.



Figure 1: A tricycle with boarded passengers in Sokoto City

In response to the COVID-19 pandemic outbreak, around March of 2020, Nigerian cities witnessed some operational transformations in urban transportation. The Northwestern cities of Sokoto and Gusau were affected by this. The situation in Birnin Kebbi is different as apparently no new measures were introduced (see Table 1). The dominant transport mode in these cities nowadays is the tricycle. The new normal requires that a maximum of three passengers only be carried on a tricycle, and that the operational hours be reduced to between 6am and 8pm, or 6am to 6pm in cities with higher security challenges such as Gusau.

Analysis, Evaluation, and Implementation. To address the increased vulnerability of the cities' population at a time when other confounding factors (such as security and incessant inflation) are at play, the following strategies are proposed. The objective is to ensure that public/paratransit improves and remain operational during emergencies such as pandemics and other disasters.

Consistency in the implementation of transport related policies. The need to be proactive in enforcing operational policies on urban transportation has been well demonstrated by the COVID-19 phenomenon. Some of the measures (such as reducing overcrowding in vehicles) are needed beyond emergency situations. Reviewing the timings of operation can however remain an emergency response issue. Community resilience can be boosted by ensuring a balanced connection between public transport and other socioeconomic issues such as security and access to other basic services. Since the economic reality in the case study cities may inhibit the sustainability of other mass transit options, promotion of electric tricycles can be one of the measures with potential to reduce emissions and dependence on hard-to-access fuels, particularly during emergencies. A low-hanging fruit in this direction can be the current electric automobile project supported by the federal government in Sokoto.

To increase resilience of paratransit during pandemics or other emergencies, varied high-level strategies include the following:

The need to agree on the basics regardless of our political differences. It is quite evident that Nigerian cities are still struggling with basic infrastructure and services, the foundation of which requires strong political commitment. These high-level issues can be deliberated upon under the different available fora such as the Nigeria Governors' Forum, State Assemblies Speakers' Forum, etc. A reasonably sustainable framework for private sector participation can also emerge from these.

Realistic efforts towards formalisation. It is difficult to implement any meaningful strategy in cities where authorities are unaware of the actual socioeconomic processes and how individual residents contribute to them. Birnin Kebbi and Sokoto in particular have all made attempts in improving the operations of State Internal Revenue Services through business census for improved revenue. The exercises are in all cases ad-hoc and need to be pursued realistically. The World Bank supported property enumeration in the states, which can provide some basic data towards formalisation.

Further decentralisation towards devolution of powers to local governments. This can provide the local authorities with the opportunity to effectively develop and implement contextually relevant policies and programmes on intra-city transportation. By doing so, identification of stakeholders

Sokoto			
	Hours of operation	No. of passengers	Remarks/observations
Pre-COVID	Up to 24	Up to 6	Reasonable profit margin to enable continuous operation
Post-COVID	14	3	Some operators lost their vehicles/livelihood as daily returns are not guaranteed
Gusau			
Pre-COVID	Up to 24	Up to 6	Reasonable profit margin to enable continuous operation
Post-COVID	12	3	The situation was aggravated by security challenges. Operation becomes more difficult
Birnin Kebbi			
Pre-COVID	Up to 24	Up to 6	Reasonable profit margin to enable continuous operation
Post-COVID	No change	No change	Patronage has reduced in response to "stay at home" campaigns

Table 1: Pre- and post-COVID experience of tricycle operators in Sokoto, Gusau and Birnin-Kebbi

Source: Prepared by the authors

and their roles will be eased. Politicians with high power to influence decisions on climate friendly transport systems may not be very interested in policies and investments for its realisation. Institutions may be highly interested but lack technical capacity to contribute meaningfully. Operators can have high influence if they are well organised. Owners may not care because of poor public education and prevailing economic realities, but are powerful in influencing decisions.

Another strategy is to reduce subsidies on petroleum. In addition to eating up the country's meagre revenue, fuel subsidy further creates an elusive economic situation, making citizens assume a possibility regarding what is either impossible or may actually require serious commitment from their own part. Pro-climate strategies can be better achieved when users of non-renewable energy sources are at least made to pay commensurate prices.

In the past, state governments (such as in Gusau) intervened in intra-city transport by providing designated taxis with reasonable comfort and driver education. The private transport operators organised through various associations usually respond to such policies by political lobbies to ensure that their business-as-usual operations are not affected. Such solutions through government's capital intervention are often not sustainable. The taxis provided in Gusau by past governments for example, are no longer operational or even visible.

The proposed strategic solutions can be seen to reflect in the improvement of the existing governance structure to make it more responsive to local circumstances, including pandemics such as COVID-19. As a climate resilience strategy, further reduction of fuel subsidies has the potential of providing the necessary push towards mass transport in the cities by disincentivising private vehicular usage. However, as Gorham (2017) puts it, "development of mass transport must be a key part of the solution to challenges of urban transport [in Nigeria], it is also likely to be a logical target of attention for those keen to disrupt civil life for political ends." As complicated as the issue of mass transport may seem to be in Nigeria, at least the city of Lagos has an example to offer. The establishment of Lagos Area Metropolitan Transport Authority (LAMATA) has demonstrated the possibility for revolutionising urban public transport in complex cities. The strategy is thus a possibility, with requisite public commitment. Improving cities' economic database will ultimately strengthen their institutional capacity to aid climate resilience.

Future Implementation and Concluding Thoughts. The operational responses to COVID-19 in the area of public transportation in most Nigerian cities (including Sokoto, Birnin-Kebbi and Gusau) are at the moment relaxed or lifted based on NCDC's pronouncements. In addition to the spill-over effects, some of the transformations are still maintained in response to security challenges, such as in Gusau. The key actors including politicians, public institutions, service providers, operators and citizens need to engage meaningfully for the implementation of workable strategies. Research on in-depth analysis of stakeholder strengths in terms of their power and influence is needed to inform future policies. The cities of Sokoto, Birnin-Kebbi and Gusau, just like many

sub-Saharan African cities, have realised their weaknesses in responding to shocks that will warrant drastic shifts in citizen socioeconomic life. The strategies proposed in the earlier sections are in many cases applicable nationwide. As such therefore, they can fit well in circumstances of other particularly northern Nigerian cities, or at least in the Northwest.

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Additional Data

- **Gross National Income (GNI):** \$6,200 USD (Lower-Middle Income)
 - **Population Density:** Sokoto -- 11,507 people/km²; Birnin Kebbi -- 9,321 people/km²; Gusau -- 8,559 people/km²
 - **Gini Coefficient:** 35.1
 - **Human Development Index:** 0.548 (Low)
 - **Type of Climate Intervention:** Both
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