



Urban Mobility and COVID-19 in Africa

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1. Introduction and Background

The COVID-19 pandemic is leading to an unprecedented global economic recession and widespread social distress. Despite its late arrival in Sub-Saharan Africa, COVID-19 is spreading rapidly.¹

As of early April, African countries implemented a number of public health measures, including bans on public gatherings, increased health screening at ports, driver testing at border crossings, restrictions on ship berthing and crew access to shore, physical distancing in public transport, and lockdowns. Measures to fight COVID-19 have caused severe economic and social impacts, especially in landlocked and least developed countries, and imposed added hardships on poor and vulnerable communities.

The World Bank has projected the first African recession in 25 years. The continent's economy will contract between 2.1 and 5.1% in 2020, compared to a 2.4% expansion in 2019.² The most affected sectors are air, maritime and road transport; freight forwarding and logistics; tourism; oil and gas; and wholesale and retail commerce. From aviation to logistics and public transport, COVID-19 has completely upended the transport sector. Public transport has been among the hardest hit industries as a result of lockdowns and physical distancing measures.

The crisis has greatly affected people's mobility in African cities. While changes in mobility differ by country (Figure 1), the number of public transport trips taken in African cities decreased by an average of 40 percent in April 2020 compared to the pre-COVID era. Lockdown measures and the subsequent reductions in mobility and vehicle occupancy have resulted in a sharp shortfall of revenues, leading to a deep financial crisis that is threatening the formal and informal public transport sector in most cities.

Now that countries are gradually lifting lockdowns, the transport sector faces several key challenges:

- I.* What mechanisms could help reconcile the requirements for physical distancing and mobility restriction with the financial sustainability of public transport operators?
- II.* How can Governments support the post-crisis recovery plans of the public transport sector?
- III.* How will changes in mobility influence the future of urban design and transport modal shares?
- IV.* What are possible solutions that the WBG's Transport Global Practice could bring to support client countries?

2. Countries' immediate responses to the COVID-19 Pandemic

African cities acted promptly to put in place preventive measures to protect people from the spread of COVID-19 and ensure safe public transport operations. The World Health Organization (WHO) reported that physical distancing is critical to limiting the spread of COVID-19.³ As a result, most African governments included physical distancing in the package of measures adopted to protect people from the spread of the virus, supported by public awareness campaigns promoted in most cities through radio, TV, social media, and the dissemination of information in local communities and transit stations. The preventive measures adopted range from full lockdown in South African cities and soft travel restrictions with accompanying hygiene regulations to protect passengers in Tanzania, all the way to "business as usual" operations in other countries. Among the 16 cities surveyed, three cities are under full lockdown, ten under partial lockdown, and three have no lockdown. Those that experienced the "Ebola health crisis," such as Sierra Leone and Liberia, were among the early implementers of health safety measures despite no reported COVID-19 cases.

All cities with formal public transport systems - such as Addis Ababa, Dakar, Abidjan, Douala, Dar es Salaam, Cape Town, Maputo, Nairobi and Accra - are following basic hygiene and physical distancing practices for protecting riders. The resulting reduction in passenger capacity means that each bus/train is operating at up to 50% capacity. In Dar es Salaam, besides from drastically reducing the capacity of the transit system, the minimum distance

¹ As of May 26, 2020, the number of confirmed cases totaled just over 115,000, with 3,471 reported deaths. Africa Center for Disease Control and Prevention. 2020. [Outbreak Brief #19: Coronavirus Disease 2019 \(COVID-19\) Pandemic](#). Addis Ababa, Ethiopia.

² Zeufack, Albert G.; Calderon, Cesar; Kambou, Gerard; Djiofack, Calvin Z.; Kubota, Megumi; Korman, Vijdan; Cantu Canales, Catalina. 2020. [Africa's Pulse, No. 21, Spring 2020 : An Analysis of Issues Shaping Africa's Economic Future](#). World Bank, Washington, DC.

³ World Health Organization. April 2020. [Coronavirus disease 2019 \(COVID-19\) Situation Report -72](#). Geneva, Switzerland.

of 1.5 meters between passengers queuing at stations or bus stops was enforced in the early days of the pandemic. In Accra, the government is enforcing the regular cleaning and fumigation of buses between operation cycles.

Most African public transport commuters travel using paratransit. Despite implementing similar protective measures, the intensity of responses implemented by paratransit operators have varied across African cities. While most cities in Africa have made the use of face masks in paratransit mandatory, other preventive measures range from limiting the maximum number of passengers per minibus or shared taxi to cleaning stations and vehicles, enforcing hand cleaning before boarding, and wearing face masks. In Nairobi, 14-seater matatus were instructed to limit occupancy to a maximum nominal capacity of 60 percent (a maximum of 8 passengers for 14-seater vehicles, 15 for 25-seater vehicles, and 15 for 30-seater vehicles and above). In Monrovia, the number of people in the back seat of a shared taxi (the main mode of transport) passed from four to three passengers. Other cities, such as Kumasi, are encouraging commuters to reduce talking in public transport to minimize the release of aerosols, and board vehicles from terminals in order to have access to hand washing kits. The City of Harare implemented stringent measures, bringing paratransit to a standstill to keep passengers safe. These preventive measures are having an impact on the bottom line of paratransit operators; however, it is challenging to monitor and quantify.

Some African cities have gone the extra mile when it comes to protecting the staff of service providers. In Dar es Salaam, the government has installed physical barriers between drivers and passengers to enforce physical distance. Nairobi is periodically measuring the temperature of staff. In Abidjan, riders are required to get on and off the bus through the rear door to protect drivers. In the formal transit system of Addis Ababa, bus drivers, ticket officers, conductors, and mechanics are required to wear masks and gloves during each shift; meanwhile, in the paratransit system, only drivers are required to wear masks. In Kenya, President Uhuru Kenyatta declared the use of mobile payments a "national priority." To reduce physical contact between individuals, he called for the expansion of cashless payments and asked companies to reduce associated transaction fees.⁴ Cities such as Nairobi and Mombasa are now actively promoting the use of cashless transactions although it will take time to scale.

While most African cities have applied key lessons from the global knowledge playbook to protect its citizens, there are still many untapped opportunities. As seen in a lot of cities worldwide, unleashing the potential of non-motorized transport modes, such as cycling as an alternative mode of transport, can help people's mobility during the pandemic. Unfortunately, most African cities have not yet leveraged the full potential of their non-motorized strategies. Furthermore, influencing demand by adjusting the supply of transport services (i.e. by increasing operating hours and the stock of buses/trains) can help enforce physical distancing measures to protect people. Nevertheless, this is not always easy in African cities given the additional operating costs involved and lack of public financing to cover them.

3. Impacts on Urban Transport

The formal and informal public transport sector in African cities has taken a significant hit as lockdowns and preventive measures have had a major impact on people's mobility.

3.1. Impacts on people's mobility

All cities experienced a reduction in transit, which contributed to demand constraints, a reduction in the supply of public transport, and to some extent, a shift toward non-motorized transport (NMT).

Reduced supply of public transport. Most cities implemented measures to reduce passenger loads, bus trips or span of service, and in extreme cases, some suspended bus operations. While aligned with health and safety standards of operation, these actions negatively impacted commuters by forcing them to experience longer waiting and travel times. In Dakar, some workers could no longer access work sites because of the reduced supply of transport services. Meanwhile, in Kumasi, the government reinforced bus services to provide increased access to the city's main hospitals during the lockdown period.

⁴ <https://www.ecofinagency.com/telecom/1703-41137-kenya-s-uhuru-kenyatta-pushes-for-cashless-payment-to-curb-covid-19-spread>

Reduced demand for public transport. Cities observed a decline in demand for public transport as soon as governments put in place actions to reduce the movement of people (i.e. closures, teleworking, and curfews) and people chose to avoid the risk of contagion in public transport. In Abidjan, public transport ridership reduced by an estimated 50 percent at the peak of restrictions, out of which 20 percent resulted from limits on occupancy and 30 percent from reduced demand linked to lockdowns and curfews. Trips to public transport stations in African cities reduced by an average of 40 percent since the beginning of the pandemic (Figure 2). The change in access to public transport is most notable in countries such as South Africa and Zimbabwe where the number of trips decreased by 80 percent as more restrictions on movement were put in place. Countries such as Tanzania and Zambia experienced an approximately 20 percent reduction in trips (Figure 3).

In some cities, increases in public transport fares have affected the ability of lower income segments of the population to travel. For instance, cities in Namibia increased public transport fares by 15 percent while some routes in Johannesburg increased fares by 10 to 25 percent to compensate for drops in farebox collection (see section 3.2 for more information on fare changes in formal and informal operations). Pre-COVID-19, most African citizens already struggled to cover their transport costs; thus, the additional costs represent a significant burden for households. For instance, two daily trips represent 60 percent of the daily household income of the bottom 20 percent of the population in Accra, and 47 percent in Monrovia.

Nevertheless, initiatives to encourage NMT in African cities have been an exception rather than the norm. Addis Ababa has seen a spike in cycling with the newly built Jemo-Lebu cycle lane. In Nairobi and Lusaka, governments have encouraged citizens to walk. Although these examples are promising and lean towards the greener development of African cities, these initiatives are limited. Sub-Saharan Africa, compared to other regions, has not seen clear leadership towards promoting NMTs.



Jemo-Lebu cycle lane, Addis Ababa

The sustainable future of African cities is threatened by an increase in private vehicles that is projected to have a significant impact on congestion, emissions and social exclusion. The cities of Accra, Dar es Salaam and Dakar have expressed concerns about the potential shift towards individual motorized travel and changes in commuting patterns when it comes to work and travel.

3.2. Impacts on livelihood/jobs (sector workers)

The public transport sector (formal and informal) is under serious financial stress as a result of reduced travel demand and service supply. Most formal and informal operators are on the verge of bankruptcy. They have suffered a steep shortfall in fare revenues due to physical distancing measures, reduced economic activities and people's risk aversion to travel by public transport, which have challenged their ability to recover operating costs. Some cities estimate revenue losses varying from 50 to 70 percent for transport service providers that have remained in operation. To compensate for lost public transport revenues, cities such as Addis Ababa, Dakar, Kumasi and Nairobi have negotiated an increase in fares. Meanwhile, others such as Ouagadougou, Kampala, Accra and Lusaka have initiated discussions with operators to request fare increases. In Addis Ababa, for example, the city has allowed fares to double on mini/midi buses to compensate for lost revenues since reducing passenger loads by 50 percent.

COVID-19 has exacerbated the vulnerability of transport sector workers, particularly minibuses drivers and conductors in the paratransit system. In general, owners of informal minibuses do not absorb demand risks, nor do they have significant fixed costs. On the other hand, minibus drivers and conductors often absorb the risks of plummeting transport demand. Although demand has dropped and is expected to remain below pre-COVID-19 levels for months to come, minibuses continue circulating because they offer the only means of income for a significant number of drivers. In Monrovia, for instance, 11 percent of jobs are directly linked to the transport sector. Apart from the financial impact on these vulnerable groups, their health is also at risk; due to their irregular job situation, they

have no recourse to social safety nets or health coverage. In the case of Douala and Dakar, minibus operators and motor-taxi companies have already discontinued their public transport activities. This has fueled growing concerns around the bankruptcy and dissolution of unions in the sector.

Bus operators running on a contractual basis have also seen their farebox collection decrease. Due to the fixed costs of labor, rent, and debt repayments, they have less flexibility than informal minibus owners of minibuses to adapt to changes in demand. As a result, formal operators suffer serious financial impacts; such is the case with large bus operators. In Mozambique, for example, the pandemic led to serious financial hardships for formal commercial operators, which had to negotiate higher subsidies for fuel. In Freetown, the decline in bus demand led to the suspension of its public bus services.

3.3. Countries' preliminary strategies and measures for recovery

The pandemic has accelerated innovative solutions and the use of digital applications for formal and informal public transport across African cities. In the case of Kampala, all *boda-boda* riders are now required to register on, and offer their services through, a digital platform to facilitate contact tracing and trackability. In Freetown, there is an increase in mobile applications such as *Flash* and *Tap-Tap* for informal public transport. In Nairobi, the app-based *boda-boda* is becoming increasingly popular among paratransit riders. In Harare, the government is conducting discussions with academia to develop a web-based application to support all operations once the lockdown is lifted. In South Africa, mobile phone solutions such as the *Track and Trace* system scan the travel history of minibus commuters infected with COVID-19 in order to communicate with drivers and other passengers that may have shared the same vehicle.

There are cases of cities mobilizing financial support for operators. The City of Kumasi, for example, is setting up funds through the national government in the form of stimulus packages to support trade associations and transport associations. Dakar and Abidjan are also providing financial compensation to support the formal bus sector. In Addis Ababa, city administrators decided to provide subsidies for the state-owned public transport companies (Anbessa and Sheger) and double fares on minibus and taxi operators to compensate for revenue losses. Operators in cities such as Lusaka are mobilizing to request support from the Ministry of Transport as part of their assistance to small and mid-size enterprises (SMEs). In Harare, operators are requesting alternative measures for direct support while the pandemic persists, such as extensions for the validity of licenses and permits, and a grace period for enforcement of fines for violation of traffic laws (i.e. from traffic offenses). Although many countries have seen a reduction in oil prices during the pandemic, opportunities for using additional fuel funds to support urban transport have yet to be seized.

Despite scarce efforts, governments in most African countries are lagging behind in setting up recovery measures for the transport sector. It is evident that operators are struggling financially, and cities are aware of the immediate financial implication on both formal and informal transit operators. However, in most cities, there is no clear strategy or measures for sector recovery. Responses have mainly focused on short-term measures for safe transport, not on medium and long-term opportunities for ensuring sector recovery and enhancing sector outcomes. Although the ability to maintain essential transport services that enable millions of people to reach their jobs is threatened, and the livelihood of thousands of transport workers is at risk, most governments in Africa have yet to mobilize and rescue the sector. There are several reasons for this. First and foremost, the atomization of the informal public transport sector makes it hard to reach owners, drivers, mechanics, and all people that depend on its revenues for survival. Second, there is a lack of political will to create a subsidy mechanism for the informal sector. Finally, the instruments necessary for transferring subsidies to informal operators are yet to be established.

Some cities fear that the pandemic might delay or impact ongoing sector reforms, such as fleet renewal in Dakar given the financial impact on operators. On the other hand, others anticipate leveraging the COVID-19 crisis to accelerate reforms, for instance, by targeting incentives to only those operators that adhere to a formalization process.

4. Strategies for the future and possible WBG responses

Rapid and comprehensive support to the public transport sector in African cities is critical to (i) avert massive job losses, (ii) prevent the disruption of public services which can aggravate the social exclusion of vulnerable populations; and (iii) avoid further hampering the efficiency of cities. A quick response targeting the informal

sector is needed to avoid massive layoffs and a potentially drastic reduction in public transport supply. In parallel, as most people in African cities rely on walking and public transport, it is essential to mitigate the risks of reduced public transport supply and increased fares that can further exacerbate social exclusion and congestion through increased private vehicle ridership. Overall, supporting urban transport is critical to maintaining and improving the efficiency of African cities, which are already considered to be costly, disconnected and crowded due to the inefficiency of its public transport systems⁵.

Based on the findings of impact assessments and best practice examples in African cities and worldwide, this section proposes a set of short, medium and long-term solutions for handling the immediate post-COVID-19 response, strengthening the public transport sector's resilience to similar crises, and creating the conditions for sustainable, green and resilient mobility going forward. The World Bank Group (WBG) has a variety of technical assistance mechanisms and financial instruments to support governments in this process. Furthermore, as a result of its worldwide coverage, the WBG has the experience to carefully tailor solutions to the local context leveraging its knowledge sharing platform.

4.1. Recovery measures and immediate aftermath recommendations: Protecting lives

The objective of the short-term recommendations is to ensure that transport operators are equipped to recover from the immediate aftermath of the financial crisis and restore the basic movement of people while containing the spread of the virus:

Support public transport operators with implementing health protocols and protecting staff and passengers, including but not limited to: (i) provision of equipment such as mandatory facemasks, cashless payment systems, and automated hand sanitizers; (ii) awareness raising campaigns on the need for physical distancing and sanitary measures, (iii) vehicle cleaning and disinfection procedures in transit hubs and stations; and (iv) implementation of measures for physical distancing in stations and buses.

Immediate financial support to public transport companies, with a focus on informal operators, including but not limited to: (i) subsidies to individual informal operators through associations or unions under specific conditions; (ii) tax or license payment waivers targeting formal and informal operators; (iii) subsidies to informal transport operators to compensate for losses incurred as a result of restrictions (i.e., limited load capacity); (iv) subsidizing targeted vulnerable users if possible (i.e., schoolers, vulnerable populations) to compensate for potential increased fares; and (v) negotiating a minimum level of public transport service and availability with operators. These measures can be leveraged to support and deepen sector reforms.

Actions to restore user confidence in public transport modes, mitigate risks of further social exclusion and ensure minimum public service operations, including (i) subsidizing targeted vulnerable users if possible (i.e., schoolers, vulnerable populations) to compensate for potential increased fares; (ii) negotiating a minimum level of public transport service and availability with operators; and (iii) examining mobility with an “accessibility” perspective (i.e., the ease with which individuals can reach high value opportunities like jobs, health services, food supplies, etc.) to better target integrated policies that combine urban mobility with other sectors and avoid disruptions that could lead to unintended consequences, particularly for the poor. It is important to also initiate a strong advocacy campaign to regain people’s confidence and trust in public transport.

4.2. Medium-term recommendations: Protecting livelihoods

The medium-term recommendations aim to guarantee the sustainability of the public transport sector given its new operating modalities while simultaneously containing the spread of the virus:

Define sustainable funding schemes to compensate for the loss of revenues resulting from physical distancing and new mobility protocols while avoiding long-term increases in fares, includes exploring the earmarking of funds to support urban transport operations (i.e., allocation of a percentage of taxes on fuel, additional fee for private vehicle registration).

⁵ Lall, Somik V.; Henderson Jr, Vernon Marquette; Venables, Anthony J.. 2017. Africa's cities : opening doors to the world (English). African Regional Studies Program. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/854221490781543956/Africas-cities-opening-doors-to-the-world>

Consolidate, formalize and structure the informal sector to increase resilience, including by: (i) supporting transport operators with shifting to the new operating environment through sensitization campaigns and capacity building programs; (ii) setting up basic social safety nets to protect workers; and (iii) corporatizing informal operators to professionalize transport operations and boost resilience.

Implement public transport priority measures and transport demand management (TDM) medium-term measures, including (i) bus priority lanes so buses can provide improved services at lower costs and with lower occupancy rates; (ii) measures such as telecommuting when possible; and (iii) parking policies to maximize the efficiency of the transport system and avoid a massive shift to private vehicles.

Facilitate the implementation of physical distancing measures at transit stops, including through the use digital technology. Areas of assistance may include: (i) supporting cities with building or improving waiting facilities at bus stops and terminals to accommodate for extended wait periods resulting from reductions in service frequency and passenger loading capacity - reductions in frequency need to be avoided as they lower the attractiveness of public transit and trigger a modal shift to motorized private vehicles; and (ii) investing in passenger information and vehicle tracking systems (i.e. *Next Bus* app) so commuters know when the next bus will arrive. This will help reduce wait times and minimize contact risks. The same cell-phone app can incorporate trip tracking functions in case there are occasional breakouts.

4.3. Long-term recommendations and prospects: Protecting the future

To protect the future, the long-term recommendations that follow aim to foster the necessary conditions for ensuring the financial viability and sustainability of public transport in Africa. It is imperative that African cities prevent an unsustainable shift to greater private vehicle usage by emphasizing green mobility solutions that keep people safe from infectious diseases.

Improve governance, funding and build capacity by: (i) strengthening land use management and transport planning in cities; (ii) designing funding mechanisms to ensure the long-term financial sustainability of urban transport operations and affordability for users, notably the most vulnerable; and (iii) leveraging big data to improve transport management efficiency and responsiveness to disruptions, with clear protocols for addressing privacy and security issues.

Support for non-motorized transport (NMT) and active modes (i.e. pedestrianization, bikes) by: (i) planning and developing a citywide biking (bike lanes) and walking network on urban roads where traffic and right-of-way (ROW) conditions permit; (ii) developing integrated urban planning and mobility policies that build on the transit-oriented development approach (TOD) to create vibrant, livable and sustainable cities; and (iii) planning and building green spaces and parks in cities, with NMT networks connected to residential and local retail areas (i.e., pedestrianized space, restaurants with outdoor dining).

Improve existing public transport systems by: (i) implementing e-mobility in mass transport systems; (ii) formalizing the informal transport sector, especially with plans for fleet renewal programs (clean energy) to improve air quality and reduce health impacts (respiratory diseases); and (iii) deploying new technologies (i.e. in cashless fare collection, fleet management, etc.) to improve the efficiency and resilience of transport operations (i.e., improving transit performance, attractiveness, affordability, and coverage).

Support the modal shift from private vehicles to high capacity transport systems, including by: (i) planning for an integrated multimodal transport system with adaptable and resilient transport modes; (ii) re-engineering transit to factor in some of the *new normal* measures in public transport (i.e. hygiene); and (iii) devising policies to integrate formal and informal public transit as a service network, coordinating ticketing and transfers so people can seamlessly travel from door-to-door; and (iv) promoting TDM approaches such as generalized telecommuting, congestion tolls, reduced speed, etc.

5. Annex

Figure 1. Changes in trips to transit stations in selected African cities.

Source: Google Mobility data

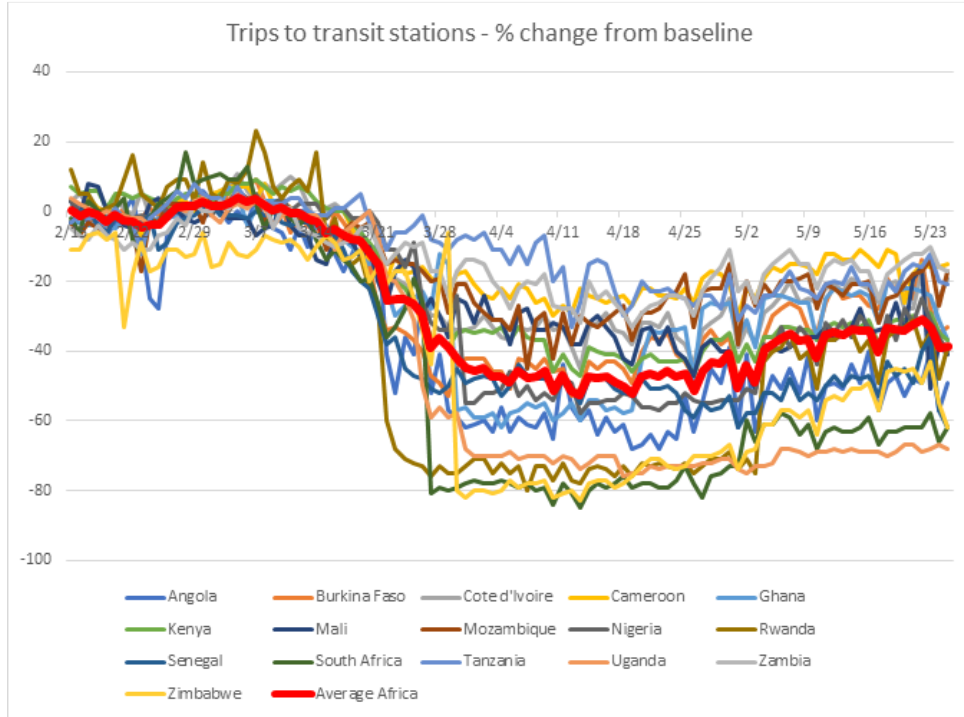
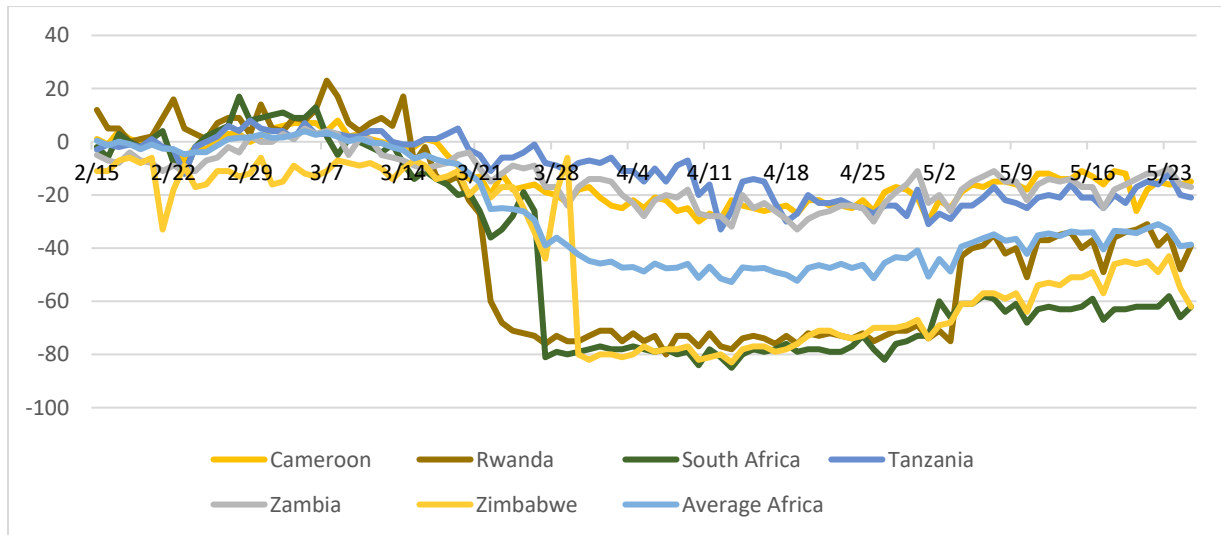


Figure 2. Trips to transit stations – percentage change from baseline⁶.

Source: Google Mobility data



⁶ Africa Average represents average percentage change of trips to public transport stations in 16 African countries, including: Angola, Burkina Faso, Cote d'Ivoire, Cameroon, Ghana, Kenya, Mali, Mozambique, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Uganda, Zambia and Zimbabwe.

Figure 3. Reduction of trips during weekdays in selected African cities
 (Blue: residential trips; Yellow trips to workplaces; Grey trips to transit stations).

Source: Google Mobility Data

