REGULATION IS NOT ENOUGH: STRUGGLING PARATRANSIT REFORM IN KENYA

M KIHATO and C GITU

PlanningHub
Email: information@planninghub.org

ABSTRACT

There has been a long history of attempts at reform to the informal transport industry in Kenya. Matatus, as they are colloquially known, have been the subject of repeated attempts at improving their service quality and safety. These efforts are almost exclusively regulatory and driven by pressure on the state to act on major safety failures on Kenya's roads. However, they have not created lasting reform. At best, they provide temporary behavioural change among drivers and crews. In the long run, they have created a web of regulations that are cumulatively counterproductive, leading to burdensome and opaque legal requirements, prohibitive costs of compliance, rent-seeking behaviour among enforcers, and routine large-scale non-compliance. In addition to these regulations, there have also been reforms requiring collectivisation of vehicle ownership through structures like SACCOs and companies. These, however, have not provided the benefits of institutional self regulation as intended. This paper shows that for lasting reform in the sector, all these interventions are not enough. The challenge must be approached as an urban mobility issue rather than as solely a safety concern. Reforms to enhance the financial viability of operations missing in current interventions need to be introduced. Importantly, this should be done by an urban mobility planning authority, that can bring together licensing, safety, and infrastructure agencies to manage the various elements of the reform process.

1. INTRODUCTION

There has been a long history of reforms aimed at the road public transport sector in Kenya, particularly targeting the informal paratransit sector or matatus. The majority of this state intervention has been regulatory, developing a fine mesh of prescriptions over the years. It has largely not worked. Public transport by the informal sector has continued to be a quality and safety challenge. There have been some reforms incentivising collective governance structures in the industry. These require individual owners register as members of Savings and Credit Cooperative Organisation (SACCOs) or limited liability companies. However, the self-regulating nature of SACCOs does not work for urban matatus. Together with the companies, they are largely used as vehicles for obtaining a license, rather than to effectively collectivise and manage transport operations.

This paper shows that reform must come as a package that targets three key areas: the regulatory regime, the governance structures, and the financial viability of the business. The last element particularly has largely been missing. Rather, the trend has been to primarily rely on the regulatory regime from a safety lense, to attempt to drive reform. This is championed by the road safety regulator and not urban mobility planning authorities.

This paper is a product of the main author's experiences as a paratransit transition advisor, for the matatu industry with the goal of implementing a Bus Rapid Transit System (BRT) in the Nairobi Metropolitan Area (NMA). Much of the knowledge on the workings of the informal transport industry was gained from this four-year stint. It has also borrowed from published literature and data on urban transport in Kenya. Project specific data collected for the purposes of implementing the BRT and other transport infrastructure projects in the Nairobi Metropolitan Area have also been used.

2. THE CURRENT URBAN MOBILITY CHALLENGE

While recent and comprehensive urban commuting data in Kenya is not readily available, a few prominent older or limited surveys by JICA (JICA, 2014) and the World Bank (Salon & Guliyani, 2019) show the importance of the informal transport industry. This industry, or matatus as it is known as, dominates urban transport. In terms of modal split, the highest percentage of trips are walking at forty one percent, and the second is walking plus “other” mode as part of the same trip, at forty two percent. A closer look however shows that this “other” motorised mode in addition to walking is highest for the informal sector at a eight four percent. This means besides walking, the second highest mode is paratransit, consisting of matatus and low-capacity informal buses.

Over sixty percent of households in Nairobi have a member who commutes using matatus or buses, and matatu trips amount to approximately one million commuters daily (Salon & Guliyani, 2019). Accessibility studies in the NMA also show that matatus create important access to services. When commuters use matatus, the share of accessible jobs within an hour double from twenty percent to forty-two percent (Avner & Lall, 2016). Furthermore, matatus are widely accessible. Ninety-eight percent of households report matatu or bus transport within a twenty-minute walk, in Nairobi. In Mombasa, the second largest city, the figure is equally high at ninety percent (Salon & Guliyani, 2019). Matatus therefore have an important role to play in providing transport in Kenyan urban areas, in the face of few alternatives.

Yet matatus do this at a cost. While preferable to personal cars, they are still contributors to congestion in urban areas due to low capacity. They are generally not safe. As a percentage, matatus account for twenty percent of road traffic injuries (Botchey et al, 2017). Service levels vary, with almost thirty percent of users rating their experience as ‘poor’ (Ingerop & Lux Consult, 2016). The matatu fleet is also very old, with more than half between 16 - 20 years from the year of manufacture (Ogot et al, 2018). And while matatus are the most widely used form of motorised transport, they are not universally affordable. Kenya is generally regarded as a lower-middle-income country, with high levels of poverty. The median monthly income is around KES 5,000 (USD 34.6 per month) according to studies (Gubbins & Hayer, 2022). Along the BRT Line 3 corridor, up to 23 percent of people earn less than KES 10,000 per month (USD 69.1 per month) (Ingerop & Lux Consult, 2016). This means using matatus daily is not an option for many as it can cost between 40 to 80 percent of household income. This means many pedestrians are captive rather than elective walkers. International benchmarks place choice trip distances for walking at an average of 1 kilometre or less. In Nairobi JICA (2014) reports over fifty percent walk for more than 30 minutes or between 2-3 kilometres and the World Bank (Salon & Guliyani, 2019) report this number is at 25 percent.

3. THE MATATU BUSINESS MODEL

3.1 Governance Structure and Organisation

Legally, there are two broad types of organising entities for matatus: cooperatives and limited liability companies. Cooperatives are institutions whose primary goal is promotion of economic, social, and cultural needs and aspirations of members, through jointly owned and democratically controlled business. According to the Cooperative Societies Act, they are based on cooperative principles, such as "voluntary and open membership", "democratic member control", "economic participation by members", autonomy and independence and "concern for the community". They are created by members to fulfil common needs, for example, jointly process goods produced, share costs, split control over work, leverage purchasing power, share employee costs and so on. Kenya has a history of a well-developed cooperatives that began before independence in the agricultural sector, and to date, are a key organising entity (Raifessen, 2019). A Savings and Credit Cooperative Organisation (SACCO) is a type of cooperative, largely industry or sector-based, constituted by members and involved in financial services such as taking deposits for savings. They are further registered under the SACCO Societies Act and monitored by an industry-wide regulatory authority. Membership is obtained through subscription of minimum shareholding. While commonly referred to as "matatu SACCOs", matatus cooperatives are not legally SACCOs because they do not offer financial services.

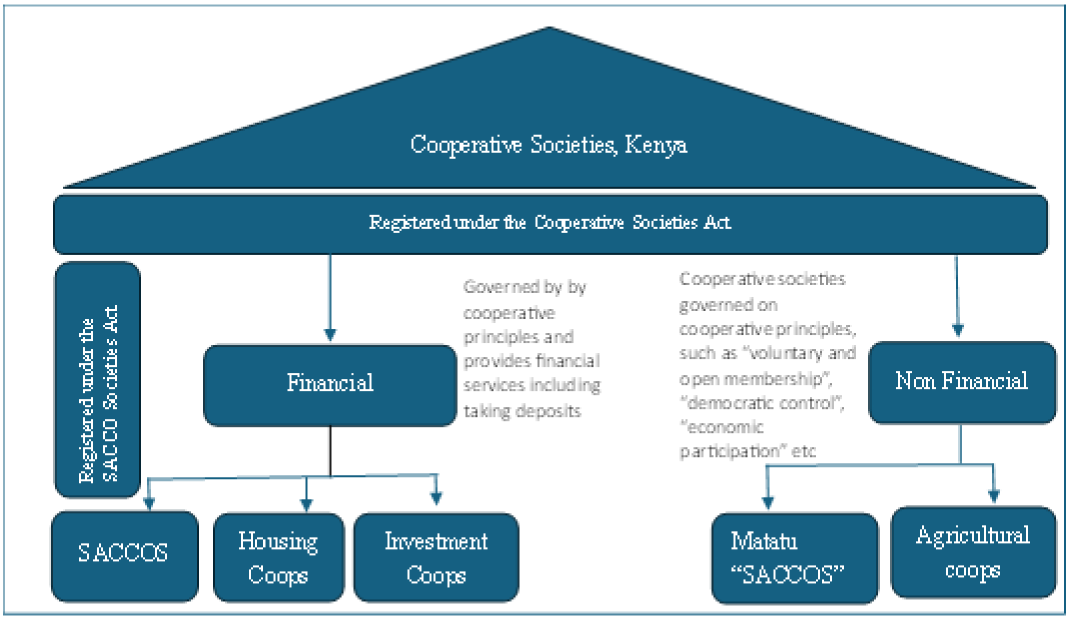

Figure 1: A typology of cooperatives in Kenya

The other form of organisation is a Limited Liability Company registered under the Companies Act. Here, two distinct organisational models have emerged. One is the "franchise model" where vehicle owners cede some aspects of management and operations to a Bus Management Company (BMC). The vehicles take on the branding of the BMC, which then performs the following services:

- Allocating and dispatching a route for the vehicle to operate, depending on demand and supply;
- managing customers including way finding and route information; and
- monitoring the driver and conductors along the route.

For this, the commission earned by the BMC for "management" services is between 10 to 20 percent of takings after running costs. This model also often offers additional services such as major and minor repairs, insurance brokerage, and even loan origination. However, these are optional. There are a fair number of BMCs currently in operation although they are still the less preferred management model. The use of the term "bus" does not necessarily connote a significantly larger capacity vehicle.

The second model of company membership does not take on a franchise model, but rather, is a company created simply as a vehicle for achieving registration of individual owners by the NTSA. This company does not provide any management services, and individual owners join only for licensing. More and more operators are moving towards companies precisely to avoid the ethos behind the cooperative movement baked into governance requirements. They argue SACCOs make swift and decisive decision-making difficult, and compliance is more costly.

The requirement that matatus organise into cooperatives and companies is a requirement by the National Transport and Safety Authority (NTSA) through its licensing regulations. The NTSA is the licensing authority for all motor vehicles, including matatus. It is not an urban mobility planning authority. This means granting Road Service Licences (RSL) is not set against any public transport planning criteria. Rather, if the individual owner pays the required KES 4,300 (USD 29.8), a license is granted for a route or more likely a variety of routes. After licensing, a licensed owner needs to report to the "SACCO" or company on various issues which are then annually reported to the NTSA. These include reporting on accidents, passenger complaints and traffic offences.

In practice, a matatu owner joins a SACCO or company in a route they are interested in. An application is then made on their behalf to the NTSA for a RSL. This ability to go online and apply for an RSL is colloquially termed being provided "a portal".

Figure 2: Screenshot of the NTSA "portal"

3.2 Fleet Type and Financing

Passenger capacity of matatus is generally low with a mix of 14, 20, 25, 33, and 51-seaters. Generally, 33 and 51-seater vehicles are the locally sold new franchise models such as Isuzu or Mitsubishi, with financing arranged. A locally sold new 33-seater costs around KES 6.5 million (USD 44,976.5) and a 51-seater KES 11,550,000 (USD 79,919.7). Lower capacity 14 to 25 seaters are second-hand imports and have an average age of six years on purchase. There have been regulatory attempts disallowing lower capacity vehicles, but this has not been successful.

Matatu operators typically finance their fleet from a mixture of savings and bank financing. A typical operator will finance 30 percent of the cost from pocket and the rest from a bank or finance institution. Vehicle financing currently in Kenya is readily available, with several banks and finance institutions linking up with fleet dealers to provide financing. Loan terms are typically 3 years, with interest rates up to 18 percent, as of February 2024. Financing is a significant cost to the owner and a key determinant of profitability for matatus. Indeed, for a typical matatu operation, break-even point is only arrived at after this debt has been paid off over the 3 years.

3.3 Operations

The ideal is that specialist administrators in SACCOs and BMCs should take over matatu operations from individual vehicle owners. This creates economies of scale, efficiencies and allows for applications of specialist skills and knowledge in administrating the operations. Drivers are part of a pool, paid monthly salaries. Midlife overhauls are paid through savings in the case of SACCOs.

Not in practice, however. Matatus plying local routes do not contractually employ drivers who get their wages from daily fares. The vehicle owner demands a target collection for the day and the driver retains revenues to hire a conductor and pay for fuel and other daily expenses such as stage hailers, cleaners, music copyright fees, fines, county parking fees, and "fees" to informal groupings along routes. Only after that can the driver take home an income. It is therefore up to the driver, largely, to manage the operations.

The owner does bear some periodic costs such as for licenses and vehicle inspections. Also, taxes through the advanced tax system in terms of the Income Tax Act, at KES 60 (USD 0.42) per passenger seat per month. Matatu fares are VAT exempt.

Table: 1: SACCO and BMC Operations – cost allocation

Description	**Bus Company**	**"SACCO"**
Fleet		
Registration, licenses	Owner	Owner
Insurances	Bus Company only when vehicle owner opts for the service	SACCO or chosen provider of the owner
Major maintenance	Bus Company only when vehicle owner opts for the service	SACCO or chosen provider of the owner
Tyres	Bus Company only when vehicle owner opts for the service	SACCO or chosen provider of the owner
Operation		
Fare revenues	Driver	Driver
Driver	Self-employed	Self-employed
Conductor	Hired by driver	Hired by driver
Fuel	Driver	Driver
Minor maintenance	Driver	Driver
Other daily expenses	Driver	Driver

A matatu business that depends on daily takings to pay for costs does not allow savings for vehicle recapitalisation. Rather, running repairs to breakdowns where temporary solutions are provided is common. This means that proper vehicle overhauls are not carried out.

4. A HISTORY OF FAILED REGULATORY INTERVENTIONS

Besides reforms to governance structures through requirements for membership to SACCOs and companies, Kenya's matatu industry has a history of regulatory interventions targeting operations. Overall, the results of these interventions have not improved the services significantly.

4.1 More and More Regulations, Few Results

The most significant regulatory interventions were the so-called "Michuki Rules" in 2003. They required among others that a speed limit of 80 km/ph is adhered to in operation. Speed governors were required to be paid for and installed to ensure this. Other requirements included seatbelts for passengers, the permanent employment of drivers and conductors, issuance of uniforms to drivers and conductors with prominently displayed photos of the former, information indicating route information, and the painting of a yellow band on matatus for easy identification. Drivers were also subjected to biennial re-tests and with conductors, required to wear uniforms. Failure to abide by these rules resulted in penalties.

Other regulations include the Transport Licensing Regulations in 2012, aimed at decongesting Nairobi, by effectively banning lower capacity 14-seater minibus matatus, and the Traffic Minor Offences Rules of 2021 which provide for traffic offenders to be instantaneously fined. The offences targeted wayward matatu behaviour such as driving without inspection certificates, driving when unqualified, failure to refund fares for incomplete journeys and so on. Implementation of these regulations has seen little improvement to matatu services. This belief in regulations continues and more recent regulatory interventions include the Traffic Amendment Bill of 2021. These deal with similar issues. For example, in the Bill, drivers and conductors should be paid a monthly salary by the owner of the vehicle, echoes from the Michuki rules.

The latest National Road Safety Action Plan has a wider spread of interventions, with eight priority areas for intervention, ranging from partnerships, funding, risk targeting, infrastructure and safety, vehicle safety standards and compliance, enforcement, post-crash services, and development of a road safety database (GoK, 2023). However, the plan does not locate urban mobility planning at the heart of these interventions, and it is not clear what the mechanisms for implementation are.

Regulatory intervention often happens when the state reacts to public pressure after major road incidents. It is important, but on its own, not enough. More aggressive regulation can also be counterproductive and lead to burdensome requirements, rent-seeking, and routine large-scale non-compliance. Further, with the over 55,000 matatus nationwide (Kenya National Bureau of Statistics, 2024), an elaborate and extensive bureaucracy to monitor regulations will be necessary. The reality is they are bypassed wherever possible.

5. SACCOs ALONE CANNOT SOLVE THE PROBLEM

The requirement SACCO membership emerged from the intent to mimic good aspects of matatu management found among intercity matatus. These are matatus that operate long distances across cities and big towns in Kenya, as opposed to those operating within local city and urban routes. These have a tradition of coming together voluntarily through cooperatives and adopting self-regulatory structures for operations. This eliminates the ruinous competition from fragmentation. These intercity SACCOs provide services such as collecting fares, booking trips, and fielding queries and questions from passengers, tracking the movements of vehicles in real-time using mobile phones or laptops, and monitoring driver behaviour with penalties and fines. The management of drivers also moves from individual vehicle owners to the cooperative staff. They may also require the installation of speed governors on vehicles. This collectivisation, mutual responsibility and better-shared management among owners results in observable higher service quality and greater regulatory compliance (Behrens, et al, 2016). Importantly as well, they often operate as true SACCOs by including savings requirements, often used for recapitalisation of vehicles.

The ability of SACCOs to incentivise better governance and accountability and hence better services has had limited success with urban matatus. These “SACCOs” do not adhere to the “rules of the game”. The ethos of common purpose and destiny and personal relationships is absent. Management is also not interested in developing capacity to manage the collective operations of the members' vehicles. They are simply used as structures for licensing. There was a proposal, not followed through, to address this by creating a distinct category of “Transport Cooperatives”, with regulations specifically suited to the industry (GoK, 2021b). However, requiring collectivisation through regulations does not replicate peer accountability that ensures compliance.

In fairness, the business practices of inter-city SACCOs, which provided the template for the idea are not easily replicable for matatus operating within urban areas. This is because, the nature of business for intercity services has a single origin and destination. In contrast, services operating within the city have multiple and erratic boarding and alighting (Behrens et al, 2016). This makes ticketing and collecting cash at a single origin difficult and incentivises leaving the task to drivers and conductors. Furthermore today, this heralded relative success of intercity matatus is debatable given the relatively poor safety records of them to date, when compared to world safety standards.

BMCs have faired no better generally. While the franchise approach does provide some improvements in service quality, the business model still remains largely the same. The driver is only paid from daily takings after the owner has obtained their revenues and the BMC a commission.

It is therefore clear that aggregation through SACCOs and BMCs on its own is insufficient to transform operations. In fact, these regulatory impositions have resulted in a form of “malicious compliance” where they are formed to simply avoid regulatory sanction.

6. LITTLE FISCAL COMMITMENT TO PUBLIC TRANSPORT

There has been no fiscal intervention in operations of the matatu industry whether capital or operational costs. State investment in public transport has only just begun to pick up in the country, but it is still inadequate after years of underinvestment. The creation of the Nairobi Metropolitan Area Transport Authority (NAMATA) in 2017 allowed some dedicated allocations for public transport although still too low. The medium-term capital expenditure allocations for NAMATA for the 2023/24 to 2025/26 financial years is KES 3.4 billion (USD 23.5 million) (GoK, 2021a). Likewise, there has also been historical underinvestment in commuter rail, resulting in a very small rail operation. Against the forecasted demand of 1.4 million passengers per weekday, commuter rail only ferries a paltry 13,000 (Kenya Railways, 2019). Its current funding allocations for the medium term are KES 13.4 billion (USD 92.7 million). To put all these budget numbers into perspective, the annual allocations for both bus and commuter rail combined are only 1.4 percent of the yearly roads budget.

7. RETHINKING INFORMAL TRANSPORT REFORM IN KENYA: SOME CONTINENTAL LESSONS

First-generation informal transport reform measures on the continent have embraced a holistic approach towards addressing the challenge. They intervene not only through regulations and reform to vehicle ownership governance structures, but also target improving the financial viability of operations. While these reforms are new and outcomes still unfolding, they have improved services and represent a more comprehensive approach towards reform. Kenya lags behind in this respect. The various waves of more and more regulations, accompanied by “crackdowns” and attempts at stricter enforcement by the national road safety agency and the police are at best only temporary changers of operational behaviour. At worst they create an environment of over regulation. This creates burdensome and opaque legal requirements, makes the costs of compliance prohibitive, encourages rent-seeking behaviour, and makes routine large-scale non-compliance common. Formal high quality service providers are also discouraged from entering the industry.

Rather, current regulations should be streamlined and if necessary redundant ones removed. But more important, attention should turn to comprehensive urban mobility planning and reform.

7.1 Making SACCOs and Matatu Companies Work Better

Consolidation of owners into aggregated governance units is an important action towards improving services. This is because it allows the state to negotiate and contract for a better service with a consolidated entity rather than individual owners. Aggregated structures are also better placed to adopt technologies such as electronic payment systems, which enhance the ability of the state to target the poor for subsidies, for example. They can also serve as the foundations for introducing higher quality and capacity services such as Bus Rapid Transit (BRT). The push for aggregated governance structures has been done in Rwanda, which requires formation of companies and cooperatives (SSATP, 2024a) and Senegal, which requires creation of Economic Interest Groups or GIE (SSATP, 2024b).In Cape Town South Africa, the “hybrid” program of public transport delivery requires individual owners, as shareholders, to join corporate entities known as “Taxi Operating Companies” to run improved services (SSATP, 2024c).

In Kenya, membership to aggregative governance structures necessary for vehicle owners to be licensed has not provided the expected benefits of greater internal self regulation. This is because in the case of urban matatus, the SACCOs do not replicate the community ethos among members. Similarly, companies do not provide a collective well managed operation for their members vehicles. Further, the nature of their business, short trips in urban areas, makes managing collective operations of the members vehicles much more difficult.

The incentive to develop the capacity and create well-managed transport operations needs to be catalysed in other ways. Lessons show that contracting these cooperatives or companies to operate the identified routes to a set standard is necessary.

Table: 2: Overview of areas of reform – informal public transport Kenya

Regulatory Regime	
Rules and regulations for matatu operations	• Prolific and regulate a range of operational issues for matatus • Often triggered by serious road safety failures • Have not been effective in reforming the matatu sector, as not used in conjunction with other reforms.
Governance Structures	
Aggregative structures for matatu operations	• Implemented and include SACCOS and companies • Regulatorily required • Internal checks and balances created by membership of individual owners have largely not happened. They are established to simply meet licensing requirements • SACCOS and companies are not contracted out to operate defined routes to a certain quality.
Financial Viability of Business	
Ability to financially sustain a high-quality safe operation at reasonable a profit	• This is the absent reform measure in the country • No mobility planning accompanies supply of matatus through licensing • No contracting for defined and planned routes with SACCOs and BMCs based on capacity • No fiscal assistance to alleviate high costs of operations, for example fleet acquisition • Little fiscal investment in infrastructure for public transport.

7.2 Ensuring Financial Viability of a Quality Operation

At the heart of the current public transport challenge is a business that cannot meet costs and make a profit, without compromising on quality. There are strong incentives to underpay drivers, maximise daily takings, over speed, overload, and under capitalise the fleet to sustain operations. Together with regulatory interventions and introducing aggregative structures, a number of actions are important to make the operations financially viable.

a) Planning for and defining routes for operations

Defining routes through a data driven transport planning process is necessary. This will determine route viability and the capacity necessary to meet demand. This process should be driven by a transport planning authority, or other organisation with such a mandate. NAMATA is a step in the right direction. Its role should be to establish routes that are then allocated to the SACCOs and companies. Currently this is not happening, and entry barriers for matatus are generally low which means eventually, over-supply of routes drives down prices and creates unhealthy competition that impacts the service.

b) Licensing and contracting defined routes

Licensing should be for well defined routes with a set number of vehicles and prescribed concession length. In Rwanda, 4 zones with multiple routes in the capital have been defined and allocated to three organised companies and cooperatives (SSATP, 2024a). In Senegal through the transport authority CETUD, 18 transport routes have been defined and allocated to GIE (SSATP, 2024b). In Cape Town South Africa, a Taxi Operating Company was licensed to serve specific routes identified through a process of service planning, jointly done with the municipality and the former taxi associations. A prescribed number of vehicles then serves the demand on that route (SSATP, 2024c). The licenses should provide exclusivity to exclude illegal competition and allow the organised company and cooperative to recover costs and make a profit.

c) Defining contractual service standards

Public transport providers should meet contractually defined service standards. Some examples are provided by first generation contracts across the continent and include requirements for, minimum number of buses to be operated, adherence to bus schedules, the use of advanced fare collection systems, accessibility standards for the disabled, providing improved conditions of employment for drivers including fixed salaries, and reporting.

d) Fiscal and financial support for operations

There is a strong political imperative to keep fares low, and fare setting is often controlled by the transport authority or the state. This often means operations are loss making. In Rwanda for example, the control of fares by the Rwanda Utilities Regulatory Authority (RURA) has resulted in either loss-making operations or very small unsustainable profits (SSATP, 2024a). Further, considering poverty levels, running an inclusive operation that allows broad access heightens this challenge. Experience in other countries also shows sustaining the contracted high service standards for scheduled services, including providing services off peak (SSATP, 2024a) and providing universal access challenges operational financial sustainability. This often leads to operations “cutting corners” and not meeting service standards, with and contracting authorities often relaxing requirements as a consequence.

Fiscal support is therefore necessary to sustain high quality operations. How this is done without creating the wrong incentives needs careful consideration. For example, support is often directed towards reducing the cost of fleet. In Senegal, a loan from the World Bank to the state is used to provide new vehicles for the GIE, paid off monthly, in instalments by individual owners. A once-off scrapping allowance is also granted to the individual owners and used as a deposit for the purchase price. The need to support fleet acquisition has also become evident in Rwanda. There, gains in service quality have been gradually lost as the fleet ages, and low or no profitability makes recapitalisation unaffordable (SSATP, 2024a).

While the decision to supplement the costs of operations is a challenging question, there is broader consensus on the need for infrastructure investment. The state should prioritise building roads, terminals, bus stops and walkways as part of reforms. In Kenya historically, this has not happened.

8. CONCLUSION

A comprehensive package of reform that addresses these multiple areas of intervention should be the first step in lasting and meaningful change to the sector. As seen, experience from other countries such as Rwanda, Senegal and South Africa shows that there is an emerging practice of how to holistically transform from informal services to higher quality formal systems. All these countries have adopted an approach that targets the regulatory regime, the governance structures as well as the financial viability of the business. The practice is still in its development stages, and the jury is still out on whether success is sustainable and comprehensive. Of particular concern has been whether quality services can be sustained in the long run, without substantial operational financial support from the state. However, what is clear is that in Kenya, while the historical focus on regulations is important, reform should shift to incentives that make adhering to regulations make business sense. Further, aggregative governance structures only work if there is an internal ethos of self regulation and professionalism such as for cooperatives. This does not exist in urban matatu operations. Rather, there should be greater focus on developing a financially sustainable business model for quality public operations. Reforms targeting licensing, route planning for contracting and fiscal support for operations carried out by organised entities are necessary. This should be done by an urban mobility planning authority that brings together the licensing, safety, and infrastructure agencies to drive the reform.

While there is no single formula for reforms currently available and universally successful, this package of reforms represents the most current thinking yet, and has yielded some positive results in the countries it has been implemented in.

9. ACKNOWLEDGEMENTS

The experience and materials in this paper emerged out of the main author's role as a paratransit industry transition transaction advisor for the implementation of Bus Rapid Transit (BRT) in Nairobi, and later as an advisor to the newly formed Nairobi Metropolitan Area Transport Authority (NAMATA) between 2019 - 2023. Special thanks to the European Union who sponsored the program on the Institutional Support for the Kenyan Transport Sector, NTU International, NAMATA and the collective lobby of informal transport providers, the Federation of Public Transport Service providers.

10. REFERENCES

Avner, S & Lall, S. 2016. Matchmaking in Nairobi: The Role of Land Use, World Bank Group. Available at: https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-7904. Accessed 1 November 2023.

Behrens, R, Mcormick, D, Orero, R & Ommeh, M. 2016. Improving paratransit service: Lessons from inter-city *matatu* cooperatives in Kenya. Available at: https://www.sciencedirect.com/science/article/pii/S0967070X16306059. Accessed 2 November 2023.

Botchey, I, Hung, WY, Mehmood, A & Bachani, A. 2017. The Burden of Matatu Bus Crashes in Kenya. *Prehospital and Disaster Medicine*, 32(S1):S19. Available at: https://www.researchgate.net/publication/316287736_The_Burden_of_Matatu_Bus_Crashes_in_Kenya#:~:text=Results%20The%20total%20number%20of,for%2020.4%25%20of%20all%20RTCs. Accessed 2 November 2023.

Government of Kenya (GOK). National Treasury. 2021a. Estimates of Development Expenditure, for the year ending 30th June 2021. Available at: https://www.treasury.go.ke/wp-content/uploads/2023/07/FY-2023-24-Development-Budget-Book-1092-2141.pdf. Accessed 7 March 2024.

Government of Kenya (GOK). State Department of Cooperatives. 2021b. Discussion paper for the transformation of the name of matatu SACCOs to matatu transport cooperatives. Available at: https://saccoreview.co.ke/matatu-saccos-to-be-transformed-to-cooperatives./ Accessed 18 March 2024.

Ingerop & Lux Consult. 2016. Nairobi Bus Rapid Transit Network Feasibility & detailed Design of Line 2 and 4w. 2016. Feasibility Report General Studies. Available at: https://www.ppiaf.org/sites/default/files/documents/2018-01/ITP_Nairobi_BRT_Line_1_Inception_Report__v2_0_ISSUE.pdf. Accessed 2 November 2023.

JICA. 2014. The Project on Integrated Urban Development Master Plan for the City of Nairobi in the Republic of Kenya also known as the Nairobi Integrated Urban Development Master Plan (NIUPLAN), Final Report Part III: Appendix. Available at: https://www.kpda.or.ke/documents/Nairobi%20Integarted%20Urban%20Development%20Master%20Plan.pdf. Accessed 5 March 2024.

Kenya Railways. 2019. Component A and B Final Report, Development of a Commuter Rail Master Plan for Nairobi Metropolitan Region. Available at: https://www.namata.go.ke/documents/Commuter%20Rail%20Master%20Plan%20Component%20B,%20Main%20Report.pdf. Accessed 18 March 2024.

Kenya National Bureau of Statistics. 2023. Road Transport Licences Issued 2017 - 2022. Available at: https://www.knbs.or.ke/download/transportation-and-storage/. Accessed 5 March 2024.

GoK. 2023. National Road Safety Action Plan 2023-2027. Available at: https://ntsa.go.ke/revalidation/archives/uploads/NATIONAL%20ROAD%20SAFETY%20ACTION%20PLAN%202023-2027%20revised%2023%20.10.2%20(1).pdf. Accessed 18 March 2024.

Gubbins, P & Hayer, A. 2022. The state of financial health in Kenya: trends, drivers and implications. FSD Kenya. Available at: https://www.fsdkenya.org/wp-content/uploads/2022/11/The-state-of-financial-health-in-kenya-trends-drivers-and-implications-evidence-from-FinAccess-abridged-version-1.pdf. Accessed 1 November 2023.

Ogot, M, Nyang'aya, J & Muriuki, R. 2018. Characteristics of the in-service vehicle fleet in Kenya. Report for GIZ and MOTIHUD. Available at: https://www.changing-transport.org/wp-content/uploads/Characteristics_of_the_In-Service_vehicle_fleet_in_Kenya.pdf. Accessed 5 March 2024.

Raifessen Today. 2019. The SACCO Movement in Kenya up to 2017. Available at: https://www.iru.de/wp-content/uploads/2020/06/RaiffeisenToday_Chapter10_Kenya.pdf. Accessed 5 March 2024.

Salon, D & Guliyani, S. 2019. Commuting in Urban Kenya: Unpacking Travel Demand in Large and Small Kenyan Cities, *Sustainability*, (11):3823.

SSATP. 2024a. Studies in informal sector transport reform in Sub-Saharan Africa – Rwanda, Kigali. Kigali_vf.pdf (ssatp.org). Accessed 5 March 2024.

SSATP. 2024b. Studies in informal sector transport reform in Sub-Saharan Africa – Senegal, Dakar Dakar_vf.pdf (ssatp.org). Accessed 4 March 2024.

SSATP. 2024c. Studies in informal sector transport reform in Sub-Saharan Africa – South Africa, Cape Town Cape_Town_vf.pdf (ssatp.org). Accessed 5 March 2024.