



**OUR
PUBLIC
TRANSPORT**

**PEOPLE'S PUBLIC
TRANSPORT POLICY**

CASHLESS TICKET PAYMENTS & IMPACTS ON LABOUR IN PUBLIC TRANSPORT IN NAIROBI



This report was commissioned from the Institute of Development Studies at the University of Nairobi and written by a research team led by Anne Kamau with research assistance from Paschalin Basil, Jane Wandere, David Migwi, Sharon Mwaniki and David Kieti. It is a contribution to the ITF People's Public Transport Policy.

Each chapter in the People's Public Transport Policy focuses on different policy issues related to public transport. The chapters include case studies, as well as campaign materials and educational resources.

The ITF's Our Public Transport (OPT) programme promotes a social model of public transport. A social model includes organisational and employment rights for workers and requires that any expansion of public transport guarantees decent jobs.

OPT:

- works in target cities to strengthen the voices of workers in the development of new urban transport modes, including bus rapid transit (BRT), and in negotiating the transition from informal to formal work
- campaigns to improve working conditions for all public transport workers – informal transport workers in particular – through increasing their industrial power. This includes building union networks in public transport multinational corporations, developing alliances with passengers, communities and other organisations and promoting women's employment in public transport
- works to develop an alternative public transport policy – one that is built on public ownership, public financing, decent jobs and union rights for workers

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ABBREVIATIONS & ACRONYMS

Covid-19	Coronavirus disease
ITF	International Transport Workers' Federation
KBS	Kenya Bus Services
KCB	Commercial Bank
Kshs	Kenya shillings
MOA	Matatu Owners Association
MWU	Matatu Workers' Union
NFC	Near field communications
NTSA	National Transport and Safety Authority
PSVs	Public service vehicles
PUTON	Public Transport Operators Union
SACCO	Savings and credit cooperatives
SPSS	Statistical package for the social sciences
TAWU	Transport Workers' Union of Kenya
TMC	Transport management company
USSD	Unstructured supplementary service data
WHO	World Health Organization



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EXECUTIVE SUMMARY

INTRODUCTION

This report draws from research conducted in Nairobi between December 2020 and March 2021 into the labour impacts of the introduction of cashless ticketing in informal public transport, and included male and female workers.

The study aimed at developing recommendations that would inform and guide public transport unions to influence the introduction of cashless payments in Kenya and to minimise any negative impacts on workers.

Cashless payments are considered safe and convenient for workers and passengers – for example, they have the potential to minimise conflict over cash payments. However, earlier attempts in Kenya to encourage passengers to use them were not very successful and cash payment modes remained dominant. In the wake of the Covid-19 pandemic, cashless payment modes were recommended in Kenya to help to minimise the risk of spreading the virus.

METHODOLOGY

This research used a mixed method approach and drew on primary and secondary data sources. Primary data was obtained through interviews with 77 workers and 19 passengers on the implications of Covid-19 and the introduction of cashless payment options in Kenya. The workers included 61 men and 14 women, most of whom were conductors (30 percent) and drivers (21 percent). Key informant interviews were conducted with representatives of transport workers' unions and other sector actors. Secondary data and information was obtained from the review of relevant literature and policy documents, journal articles and related publications, newsletters and media briefings. The findings were shared with the public transport workers and union representatives in two forums organised by the ITF.

This report is an analysis of the data obtained and responds to three broad research objectives that sought to:

1. map the cashless payments options used in the informal public transport (matatu) industry in Nairobi;
2. identify key players influencing the introduction of cashless payments; and
3. analyse the labour impact of cashless payments on male and female informal transport workers.

RESULTS

The research identified several cashless fare payment systems that were used in the public transport sector and were offered by different service providers. Results showed a balanced acceptance of cashless payments by matatu sector workers, with 55 percent agreeing that cashless systems should be encouraged and 46 percent disagreeing. Generally, most matatu workers accepted both cash and cashless payments and provided information to passengers on different cashless modes. The M-Pesa mobile money platform launched by Safaricom (mobile phone operator) was the most commonly used, probably because of the long-standing use of Safaricom in Kenya. Other options included the Safaricom PayBill and Till Number, and applications such as the BuuPass, Komiut and M-Nauli.

While this study did not cover the use of cashless payments following the Covid-19 pandemic, the discussions revealed an increase in both usage and acceptance of these methods following government directives for public service vehicles to embrace cashless payments. However, few workers – mainly drivers and male workers – were trained in the use of cashless payments and that training was only basic. The conductors who usually handle fare collection, most of them women, were not trained.

Despite the potential benefits of using cashless payments, systemic challenges



limited the full uptake and use of these methods. The fear that passengers might reverse payments and that technological hitches might delay the validation of payments posed the greatest threats to the acceptance and uptake of cashless payments. Other challenges cited included the high cost of transactions often borne by passengers; failure to engage transport workers and unions in decision making; and competing interests among the many service providers, which limits the integration and coordination of services.

As a result, some workers refuse to accept cashless payments, inform passengers about them or display messages in their vehicles that they accept only cash payments. In some cases, workers ask passengers to withdraw cash before boarding a vehicle, or eject them from the vehicle if they insist on using cashless payments. Some ask passengers to pay additional withdrawal charges. There are also instances where workers prefer to let passengers alight without paying the fare rather than accepting cashless payments, even though this reduces their daily income. Having mobile loans (e.g. Fuliza) also discourages workers from accepting cashless payments.

On whether cashless payments have changed or affected workers' labour issues, for instance improving access to credit, the responses were largely negative. Most workers thought that cashless payments benefited the vehicle owners and not the workers, who still had to meet their targets even with the reduced working hours due to the imposed Covid-19 curfew. Some employers had reduced the target amount but this was not conclusively determined in the study. The use of cashless payments denied workers the extra money that they often got from passengers paying cash. To circumvent this, some workers pretended that there were technical problems with the cashless platforms and asked passengers to pay using cash. In other cases, workers demanded cash payments on some trips in order to have cash to pay for vehicle operational costs, such as minor mechanical works, callers and loaders, and rent seeking.

CONCLUSIONS AND RECOMMENDATIONS

This research concludes that the use of cashless payments in the matatu sector is necessary to avert the spread of Covid-19 and to address similar future threats. However, discussions on cashless payments should be taken out of the Covid-19 debate to ensure that its importance in developing sustainable transport solutions is not undermined or subsumed by the pandemic. The challenges discouraging the full uptake of cashless methods – high transaction costs, fear of reversal of fare by passengers – and the need for standardisation and enhanced integration of services should be addressed through stakeholder engagement between the government, workers and their unions, vehicle owners and their associations, and passengers' representatives. The impact of cashless payment on labour should also be understood, especially the impact on women workers. This requires, for example, understanding why so few female workers participate in training on cashless payments and identifying suitable solutions to incentivise them.

The Covid-19 pandemic has provided the government with another opportunity to promote the use of cashless payment systems in Kenya and to organise the sector. Unfortunately, however, observations reveal that while there is initial high acceptance of cashless modes, cash payments are still dominant. There is also a trend towards reverting to high use of cash payments despite the continued risk of Covid-19 infections and the increased passenger capacity of vehicles as government restrictions are relaxed. There is a need to boost public education and awareness about cashless payment methods in order to encourage usage and acceptance of them. The government should also enforce compliance with cashless payments and initiate consultations with technology developers and key sector actors to ensure standardisation of cashless payment methods and reduce the transaction cost burden borne by passengers.



Given the need and efforts to formalise or semi-formalise the public transport sector in Kenya, it is important to identify opportunities and jobs that emerge with the introduction of cashless payments. This process should ensure that women workers in the sector benefit from the introduction of new technology, automation or digitalisation, and that regular gender impact assessments are undertaken. It is equally important to identify the skills of workers in the sector to understand skills gaps and training needs, so that future training takes into account gender roles and women's work arrangements. There is also a need for a comprehensive survey to map existing cashless payment systems and other relevant training programmes in Kenya, where workers can train to build or enhance their skills and capacity.

OUTLINE OF THE REPORT

The report is divided into five sections:

- 1. INTRODUCTION**, which provides the background of the study.
- 2. METHODOLOGY**, which details the methods used in collecting data for the study.
- 3. RESULTS**, which provides the key findings, including results of the mapping exercise and responses from interviews with workers and passengers.
- 4. DISCUSSION**, which analyses the results and reflects further on cashless payments in the matatu sector.
- 5. CONCLUSION & RECOMMENDATIONS**, which summarises key findings on the impact of cashless payments on informal transport workers; and recommends how public transport unions can influence the way cashless payments are introduced, in order to minimise any negative impact on workers.

1. INTRODUCTION

1.1 OVERVIEW OF THE STUDY

This report is based on research undertaken in Nairobi, Kenya between December 2020 and March 2021. The research, commissioned by the International Transport Workers' Federation (ITF), investigated the labour impacts of the introduction of cashless ticketing on informal public transport (matatus) in Nairobi. The ITF commissioned the study following the outbreak of the Coronavirus disease in 2019 (Covid-19), reported first in Kenya in March 2020. The research targeted male and female public transport sector workers in Nairobi, as well as passengers.

The objectives investigated in the study aimed to:

- a. map the cashless payment options used in the informal public transport (matatu) industry in Nairobi;
- b. identify key players influencing the introduction of cashless payments in Kenya; and
- c. analyse the labour impact of cashless payments on informal transport workers, both men and women.

1.2 THE MATATU SECTOR IN KENYA

The matatu industry in Kenya, also termed the paratransit sector, is a largely privately owned flexible mode of public passenger transportation (McCormick *et al* 2015)¹. Matatus are typically public service vehicles (PSVs) in the form of small to medium-sized buses or minibuses. They employ a large number of informal sector workers (although the actual numbers are unavailable) who include drivers, conductors, loaders, fleet and stage managers. To operate, matatus are required by the National Transport and Safety Authority (NTSA) to belong to public transport savings and credit cooperatives (SACCOs) and transport management companies (TMCs) that oversee the management of

public transport operations (Kamau 2021)². Fare collection in matatus is mainly the responsibility of conductors and sometimes drivers. The crew remit daily earnings to the vehicle owners or SACCOs using an agreed daily target, usually after paying themselves.

In Kenya, fare collection in matatus is not centralised and payments are largely cash-based. However, the use of cashless payments has risen, particularly with the increased threats of Covid-19. Cashless payment options are also termed as contactless and come in different forms. They include pre-paid cards with varying short-term or long-term validity periods, paper-based systems, credit or debit cards, online payment platforms, mobile money and mobile wallet modes. These platforms are developed and supported by private technology and IT companies, commissioned to provide services in public transport service operations. Tinka and Behrens (2019)³ observed that cashless fare collection is one of the commonly used approaches in reforming paratransit services in sub-Saharan Africa.

1.3 THE BENEFITS OF GOING CASHLESS

The benefits of going cashless are many and include being fast, easy and convenient. They are technologically driven and provide the ability to transact across the entire globe round-the-clock, and within a short time. They are also considered to be secure and safe for the transacting parties and can provide protective benefits for workers and passengers. They can also benefit vehicle owners by giving them more control of vehicle earnings if they receive the payments directly. In the process, the owners could be incentivised to improve workers' salaries and working conditions, including their access to social protection (Kamau and Mitullah, forthcoming)⁴; Kamau, forthcoming)⁵. Indirectly, digital fare collections can curb fraud and corruption in the sector by allowing vehicle owners to track payments in real time and relieve the problems for passengers of having to remember to carry the correct change, being overcharged or getting into conflict with the crew.

Kenya has the necessary infrastructure and environment to support cashless payment modes. Mobile phone penetration is high, estimated to be 80 percent of the adult population, of whom 30 percent own a smartphone and 50 percent a basic phone (Kibuacha, 2021)⁶. Mobile phone ownership is estimated to be higher among women than men (Itimu, 2020)⁷. Other estimates suggest that 96 percent of households in Kenya own a mobile money account (Kibuacha, 2021). Even with this wide coverage, there is a need to ensure the inclusion of those who may not own mobile phones, such as children, and those who find it difficult to use them because of physical or technological challenges. Legally, only persons above 18 years old can register on mobile phone platforms. Therefore, enhancing equity in access to cashless modes may require use of other cashless payment forms in addition to mobile phone applications.

Covid-19 has shown the health benefits of cashless payments, which are more hygienic and less likely to spread the virus than physical money, which, according to Alemu (2014)⁸, makes it easy to transfer microorganisms and cause contamination. Gardner (2020)⁹ also noted that, unlike contactless payments, banknotes could spread the Covid-19 virus. This was because 'viruses can survive on hard surfaces like coins for days in some cases' (Brown, 2020)¹⁰. The World Health Organisation (WHO) encourages the use of digital payment options to reduce the risk of transmitting Coronavirus. According to these sources, it is therefore advised that individuals handling cash should 'wash their hands after handling banknotes and avoid touching their face' (LitTranstit, 2020)¹¹.

As a result, this study is premised on the fact that cashless payments modes are not only beneficial in preventing the spread of the Covid-19 virus but also benefit the industry as a whole (Brown, 2020), while at the same time impacting on labour issues in the sector.

2. METHODOLOGY

2.1 RESEARCH DESIGN AND STUDY SITES

The field data collection was carried out between January and February 2021 in Nairobi using a mixed approach that combined qualitative and quantitative methods. Both secondary and primary data sources were used to obtain the necessary information, as detailed below.

2.2 DATA COLLECTION

The study was restricted to matatu sector workers plying within different routes in Nairobi and the environs. The long-distance passenger transport vehicles were excluded. In addition, passengers travelling on selected routes were covered, as well as key informants. In Kenya, there is no reliable data on the actual number of registered and licensed matatus, SACCOs and transport management companies, or the number of public transport workers. Therefore, the study used purposive (expert or judgmental) and convenience (availability) sampling methods to identify the routes and SACCOs that were included in the study. The data obtained, though not representative, is useful in giving general perspectives on the use of cashless payment modes in Nairobi.

2.2.1 PRELIMINARY DATA COLLECTION

To obtain secondary data, a search and review of relevant literature on cashless payment options was conducted to inform the study and facilitate the development of data collection tools. This was followed by primary data collection that entailed conducting interviews with workers, passengers and key informants. The research was undertaken at the height of the Covid-19 outbreak, so the set Covid-19 regulations on social distancing and other safety measures were observed. While telephone interviews were ideal, most workers preferred face-to-face interviews, and these were conducted with caution. In some cases, for instance in

conducting interviews with vehicle owners, self-administered questionnaires were used.

2.2.2 PARTICIPANT OBSERVATIONS AND PRE-TESTING

The research team, comprising of the researcher and five research assistants, mapped out the study sites. They also conducted participant observations, riding and travelling in the matatus as passengers and testing the use of cashless payments. During these trips, the team offered to pay using cashless payments and observed how the crew behaved and their acceptance of these modes. They also observed how passengers paid their fare, how they interacted with the crew, the information they were given verbally on different payment modes and how passenger information was displayed inside or outside the vehicles. These initial observations were useful in helping the team to understand key aspects to include in the research and in getting first-hand experience in using cashless fare payment methods. In addition, the team engaged the workers to get their perspectives on the use of cashless payment options and held regular debrief meetings to reflect on their research experience and observations.

2.3 DATA MANAGEMENT AND ANALYSIS

The data collected from the various sources was analysed using a data triangulation process. Observations data were documented through photos and notebook recordings of the research team's observations. Quantitative data obtained using the questionnaire was analysed descriptively using the SPSS (statistical package for the social sciences) data management software. The analysed data is presented in the report and supported by tables and diagrams. Further, the qualitative data from the open-ended questions and from the key informant interviews was extracted and where possible coded. Using a reflexive process (which involves questioning one's own taken-for-granted assumptions), the emerging themes were identified and categorised and the information used to

complement data from other sources. Direct quotes emerging from the discussions have been included in the report.

2.4 DISSEMINATION FORUMS

Three meetings were organised by the ITF. The first was to share the preliminary findings and get feedback from the federation and its partners. The second, held on 22 July 2021, was a one-day dissemination meeting that targeted female workers and representatives from transport workers' unions. The third meeting, held on 29 July, involved public transport workers and their unions.

The study findings were also shared and discussed with stakeholders, who provided feedback. This report is therefore an outcome of the different processes undertaken at different phases of the research. The following sections cover the study findings, discussions, conclusions and recommendations.

3. RESULTS

3.1 RESPONDENT CHARACTERISTICS

3.1.1 PUBLIC SERVICE VEHICLE WORKERS

Seventy-seven transport workers were interviewed. They were drawn from 43 SACCOs operating on nine transport corridors and 30 routes in Nairobi, and a few peri-urban routes. These workers had a mix of vehicle types, ranging from 14- to 51-seaters, and they included SACCO staff, route managers, drivers, conductors and matatu owners (Table 1).

The matatu workers included 63 men (81.8 percent) and 14 women (18.2 percent) aged between 19 and 61 years, with a mean age of 36

years. The female workers, though few, worked mainly as conductors and this affirmed (Wright, 2018)¹² male dominance observations and the fact that women are gradually being accepted in the sector (Kamau, 2018)¹³. Nonetheless, the position of women in the sector is still shaky, particularly with job losses linked to the Covid-19 pandemic.

Over half the workers had completed secondary education (58.4 percent) and 14.3 percent had university education or other training (Table 1). Only nine (11.7 percent) did not have a secondary school education **OR** Only 11 (14.3 percent) did not have either a primary or a secondary school education. This shows that the sector workforce is generally literate and capable of understanding the intricacies of cashless systems technology.

Table 1: Respondent distribution according to gender, age and occupation
Source: Field Interviews (2021)

	Frequency (N=77)	Percent	Frequency distribution by gender	
			Male (n=63)	Female (n=14)
Occupation				
Conductor	23	29.9	14	9
Driver	16	20.8	15	1
Route manager / clerk	16	20.8	13	3
Sacco manager / staff	14	18.2	13	1
Matatu owner	8	10.4	8	0
Vehicle				
14-seater	18	23.4		
33-seater	41	53.2		
38-seater	4	5.2		
51-seater	12	15.6		
No response	2	2.6		
Age in years				
Below 35	32	41.6		
Above 35	41	53.2		
No response	4	5.2		
Level of education				
Primary incomplete	2	2.6		
Primary complete	9	11.7		
Secondary incomplete	9	11.7		
Secondary complete	45	58.4		
University	2	2.6		
Tertiary	9	11.7		
No Response	1	1.3		

3.1.2 PASSENGER AND KEY INFORMANT INTERVIEWS

Nineteen passengers selected from 17 routes were covered in the study. They included 12 females (63.2 percent) and seven males (36.2 percent) aged between 21 and 68 years, with a mean age of 35 years. The passenger literacy level was high, as 31.6 percent had completed secondary education, 36.8 percent university, and 26.3 percent had tertiary level of education or other training. Only 5.3 percent had primary level education. The young age of passengers and high literacy levels provides an opportunity for the introduction of cashless payments, as they can comfortably interact with new technology. Key informant interviews were also conducted with transport union representatives and other sector players.

3.2 MAPPING OF CASHLESS PAYMENTS IN THE MATATU INDUSTRY

The mapping exercise involved making on-board observations, interviewing workers and passengers, and use of secondary data sources to identify the various cashless payment options that were known and used in the matatu sector in Nairobi. These observations were complemented by worker and passenger interviews, where information was obtained on awareness about cashless fare payment options, the benefits and challenges of these options, and ways to enhance their acceptance and use. Information on cashless payment options that existed prior to and with the onset of the Covid-19 pandemic were obtained.

3.2.1 CASHLESS PAYMENTS IN KENYA: A HISTORY

The possibility of using cashless fare payment options has been floated in Kenya since as far back as the 1970s, when the government and public transport sector players first toyed with the idea. The Kenya Bus Services (KBS) is one example. At its peak, KBS had introduced the monthly cashless Mega Rider¹ paper tokens in their buses. Other companies that previously used electronically-generated tokens included the Double M buses and City-Hoppa

(Nyiendo, 2014)¹⁴ (Wangalwa, 2015)¹⁵. Later, in 2014, the government made a strong push for public service vehicles (PSVs) to embrace cashless payments (Kimani, 2018). At the time, the National Transport and Safety Authority (NTSA), through a legal notice of 2013, issued regulations for rolling out cashless payments by June 2014. During this time, a number of options were rolled out but were short-lived, due to conflicting interests among the service providers and fear among the workers that cashless modes threatened their incomes (Chaux, 2014)¹⁶. Kimani (2018)¹⁷ observed:

“**Kenya has failed the cashless experiment which attempted to digitize all commuter payments in Kenya..., we fall in the trap of making broad sweeping assumptions about people and places based on our preconceived notions of what we consider an ideal world...’**

According to Kimani in the same article, the cashless matatu initiative was a policy move by the government to clean up and formalise the industry and weed out the culture of inefficiency, corruption and bribery. The providers of electronic payment systems were the big FinTech companies in Kenya – Equity, Google, Safaricom M-Pesa, Mastercard, Kenya Commercial Bank (KCB), which had the KCB Pepea card, and Family Bank, which eyed the profits they would make from processing commuter transactions. The Matatu Owners Association (MOA) was roped in to make it look like it supported the move. However, MOA and other PSV companies came up with their own platforms, such as the My1963 card and the Kenyan Bus Service’s Abiria Card, so joining the competition to provide these services.

Several cashless platforms now exist. The Safaricom M-Pesa is the most widely accepted and used, and commands a lead among all mobile transfer payments in East Africa (iPay support, 2020)¹⁸. Estimates suggest that the M-Pesa wallet is used by about 90 percent of Kenya’s population (Intelligent Transport, 2020)¹⁹.

Other platforms include the unstructured supplementary service data (USSD) based technology which enables users without

¹ A KBS ticket that gave frequent bus users a special discount in the 1990s and early 2000s.



smartphones, data or internet connection to use mobile banking by dialling a code that starts with * and ends with #. An example is the LipaFare^{II}, which is designed to eliminate unnecessary ticketing and cash payments. Another is the Komiut ‘smart integrated transport management system’ that enables passenger booking and payments and real time vehicle tracking^{III}. The system allows the crew to pick up passengers en route while the commuter is able to track their ride in real time as it approaches. Maximum and minimum fares are set to prevent incorrect charging of passengers, and each vehicle has both its own Komiut device and an M-Pesa payment till number to provide alternatives to customers. The Neo-Kenya is one of the SACCOs using the Komiut platform.

In addition, commercial banks have entered the cashless payment market and have developed their own platforms (this is further discussed later in this report), among them Kenya Commercial Bank (KCB), Equity Bank, NCBA Bank and Family Bank.

Despite the plethora of options and players, however, cashless methods have failed to pick up fully in the matatu sector (McCormick et al, 2015) and cash payments have remained dominant in Kenya.

3.2.2 THE KENYAN CONTEXT IN THE WAKE OF COVID-19

The Covid-19 pandemic has continued to ravage the globe and may persist for a long time. Following the announcement of the first confirmed Covid-19 case in Kenya, the government introduced measures to minimise the risk of spreading the virus in the transport sector. These included: reduced passenger carrying capacity to maintain social and physical distancing; zoning and instituting lockdowns in the ‘disease counties’ to restrict

travel; dusk-to-dawn curfews that required all citizens, including public transport workers, to close early (thereby reducing working hours); and maintaining vehicle cleanliness and hygiene. These measures affected both transport sector workers and operations.

As a reaction to the pandemic, the government encouraged the public to transact using cashless means to prevent the spread of the virus, including in public transport. The NTSA issued a tender in June 2020 calling for bids from tech companies to provide cashless payment systems that targeted about 200,000 matatus in Kenya. The winning bidder was also expected to develop an application that would help to collect passenger manifest data that could be used to track down passengers who may have travelled in a vehicle with another passenger or crew member who was found to have Covid-19.

The NTSA selected 29 tech companies to provide cashless payment services. It envisaged a system where all passengers would be required to pay their fares via mobile money platforms (Kariuki, 2020)²⁰ and enable contact tracing. According to media reports in January 2021, Safaricom was one of the IT companies licensed. Its huge subscription rate compared to other mobile phone companies gives it a considerable advantage over other cashless payment systems providers and could provide a decisive boost to cashless payment take-up. Other firms are Craft Silicon (which is linked to taxi-hailing app Little), JamboPay^{IV},

Cellulant (a pan-African payments gateway firm)^V, KCB Bank and the NCBA Bank^{VI}.

There were other players and local innovations who claimed to offer technological solutions to address the Covid-19 threats in the sector and could be considered if service integration is to be considered. They include the BusPass app^{VII}, MyRide Africa^{VIII} (which also captures passenger manifest data), and BebaPay. BebaPay is a Near Field Communications

II Lipafare is implemented by Nikodigi, a subsidiary of Tracom Services Limited, which is UK based. Tracom Services Limited has partnered with Europe’s automated fare platform, O-CITY to develop and roll out a cashless fare collection platform. In Kenya, Lipafare is aimed providing cashless payment option for Kenya’s public transport industry with the expectation that it would help to curb the risk of money reversal and reduce corruption in the matatu industry. It also helps conductors to reduce the hustle of giving change to passengers. Estimates suggest that about 1,500 matatus in Nairobi are using this platform - <https://www.lipafare.com/>; <https://tracom.co.ke/lipa-fare/>.
III <https://komiut.co.ke/>

IV <https://www.jambopay.com/>
V <https://www.cellulant.com/>
VI <https://ke.ncbagroup.com/>
VII <https://buupass.com/>
VIII <http://blog.myride.co.ke/>

(NFC) technology whereby a passenger pays by tapping their card on a card reader (validator) in the vehicle (Kimani, 2018). The app can help to track passengers while allowing SACCOs and vehicle owners to know how many passengers have used a vehicle on any given day, providing an estimate of daily earnings. The O-CITY is another automated contactless platform which uses the M-Pesa mobile wallet for fare collection on buses in Nairobi (Intelligent Transport, 2020). It is an initiative of the transport savings and credit specialist NikoDigi Ltd and Kenyan payments firm Tracom Services Ltd. Passengers enter a code on their phone and a debit is made from their wallet. Payment confirmation to the driver is instant, so reducing validation delays.

If the different innovations are rolled out and effectively coordinated, they can greatly reduce the need for cash fare payments in PSVs, the risk of contact between passengers and conductors, and help stop the spread of Covid-19. However, the sheer number could lead to costly competition and, if those costs were transferred to users, it could discourage the use of cashless modes.

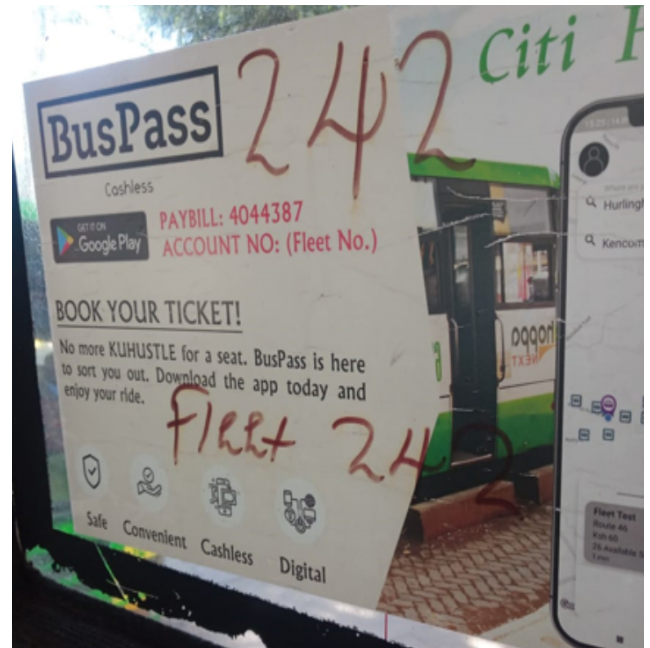


Figure A: Citi Hoppa Bus Pass information displayed off-board and on-board



3.3 AWARENESS AND USE OF CASHLESS PAYMENT OPTIONS IN THE MATATU SECTOR

The effective use of cashless payments depends on several factors. These include the existence of supporting platforms, awareness and acceptance by workers and users, minimal operational challenges, and a favourable environment that ensures efficiency of transactions and regulated transaction costs that favour users.

3.3.1 AWARENESS ABOUT CASHLESS PAYMENT OPTIONS

Matatu workers have high awareness about cashless payment options, with the Safaricom M-Pesa being mentioned most. Other options named included BebaPay (run by Equity and Google), the My1963 prepaid card owned by the Matatu Owners Association (MOA), Komiut, LipaFare, the Tangaza Pesa PSV card, the Co-operative Bank M-Nauli, and TekeTeke (Figure B). All except Komiut, LipaFare and TekeTeke were used along with the Kenya Bus Service Abiria and the KCB Pepea platforms during the failed 2014 attempts to introduce cashless payments in Kenya (NMG, 2020)²¹.

3.3.2 ACCEPTANCE OF CASHLESS PAYMENT OPTIONS

There is high acceptance of cashless payment options that are mostly used alongside cash payments. Since the start of the Covid-19 pandemic, most PSVs (94.8 percent) allow passengers to use either cash or non-cash fare payment options (Table 2). However, a few (3.9 percent) accept cash payments only and others (1.3 percent) cashless payments only. The high acceptance of cashless payments – though balanced with cash payments – is attributed to the government directive that encouraged PSVs to enable commuters to pay fare using cashless modes (Nderitu, 2020)²².

In this study, most passengers reported using both cash and cashless payments since the outbreak of the Covid-19 pandemic. However, a sizeable proportion (36.8 percent) preferred to pay by cash only. There needs to be better understanding of the reasons for this, given the important role of passengers in the successful rollout and use of cashless payments – looking, for instance, at how much motivation by crew influences passenger behaviour.

Figure B: **WORKERS' AWARENESS ABOUT CASHLESS FARE PAYMENT OPTIONS**

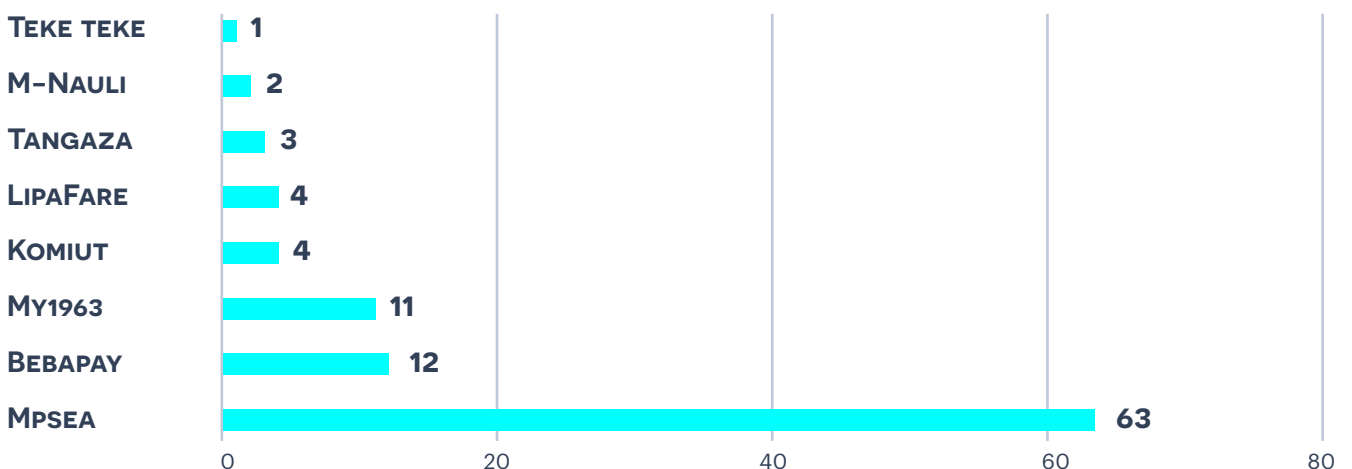


Table 2: Options allowed and used in PSVs since the start of Covid-19
Source: Field interviews (2021)

Fare payment options	Workers responses		Passengers responses	
	Frequency	Percent	Frequency	Percent
Both cash and cashless	73	94.8	10	52.6
Cash only	3	3.9	7	36.8
Cashless only	1	1.3	1	5.3
No response	-	-	1	5.3
Total	77	100.0	19	100.0

3.3.3 COMMONLY USED CASHLESS PAYMENT OPTIONS

The Safaricom M-Pesa platform is the most commonly used method. It entails sending money to a mobile phone belonging to the driver, conductor or vehicle owner. Other M-Pesa options used are the Till Number and PayBill often displayed in the vehicles. The Komiut, M-Nauli and BebaPay are also used (Table 3). Analysis of passenger data affirmed M-Pesa’s popularity and dominance in the sector, clearly making Safaricom a key stakeholder in the transition to cashless systems. Other platforms commonly used by passengers include the LipaFare used on City Shuttle SACCO and the Komiut app used by the Neo Kenya buses plying the Thika-Nairobi corridor. BebaPay, Tangaza, and M–Nauli were moderately used.

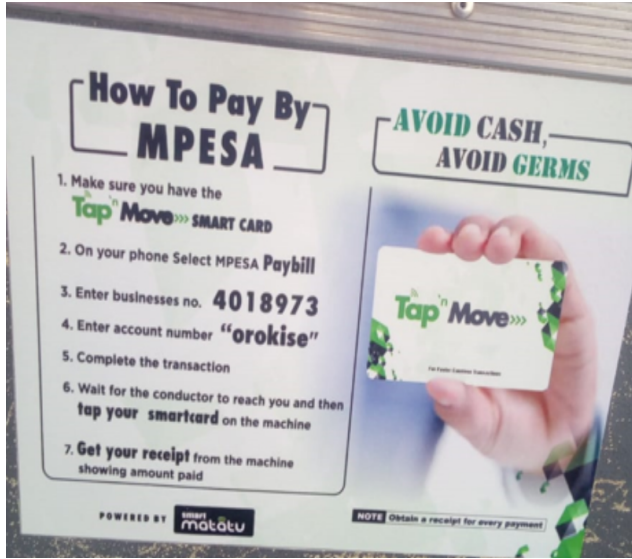
While seven passengers had not used cashless payments, they all indicated that there were instances when they preferred to use cashless modes. They cited as reasons for this: fear of contracting Covid-19, the convenience and simplicity of cashless payments, not having cash all the time, and a reduced chance of confrontation with the crew. Even though M-Pesa dominates cashless payments, PayBill and Till Number combined fell far short of payments made directly to a crew member’s mobile phone. The preference for the latter is the convenience and speed in validating payments compared to when money is paid to a phone that is not available immediately to the crew, such as the vehicle owner’s number, PayBill or Till Number.

Table 3: Platforms commonly used or preferred by workers and passengers
Source: Field interviews (2021)

Responses	Workers responses		Passengers responses	
	Frequency ^{IX}	Percent of Responses	Frequency	Percent
M-Pesa (to a phone number)	55	67.4	8	42.1
M-Pesa (Till Number)	13	14.6	1	5.3
M-Pesa (PayBill)	10	11.2	-	-
Komiut	4	4.5	-	-
M-Nauli (Co-op Bank)	1	1.1	-	-
BebaPay (Equity Bank)	1	1.1	-	-
LipaFare (City Shuttle platform)	-	-	2	10.5
N/A (not used cashless)	-	-	7	36.8
No response	-	-	1	5.3
Total	89	100.0	19	100.0

IX Multiple responses

Figure C: Messages promoting use of cashless payments

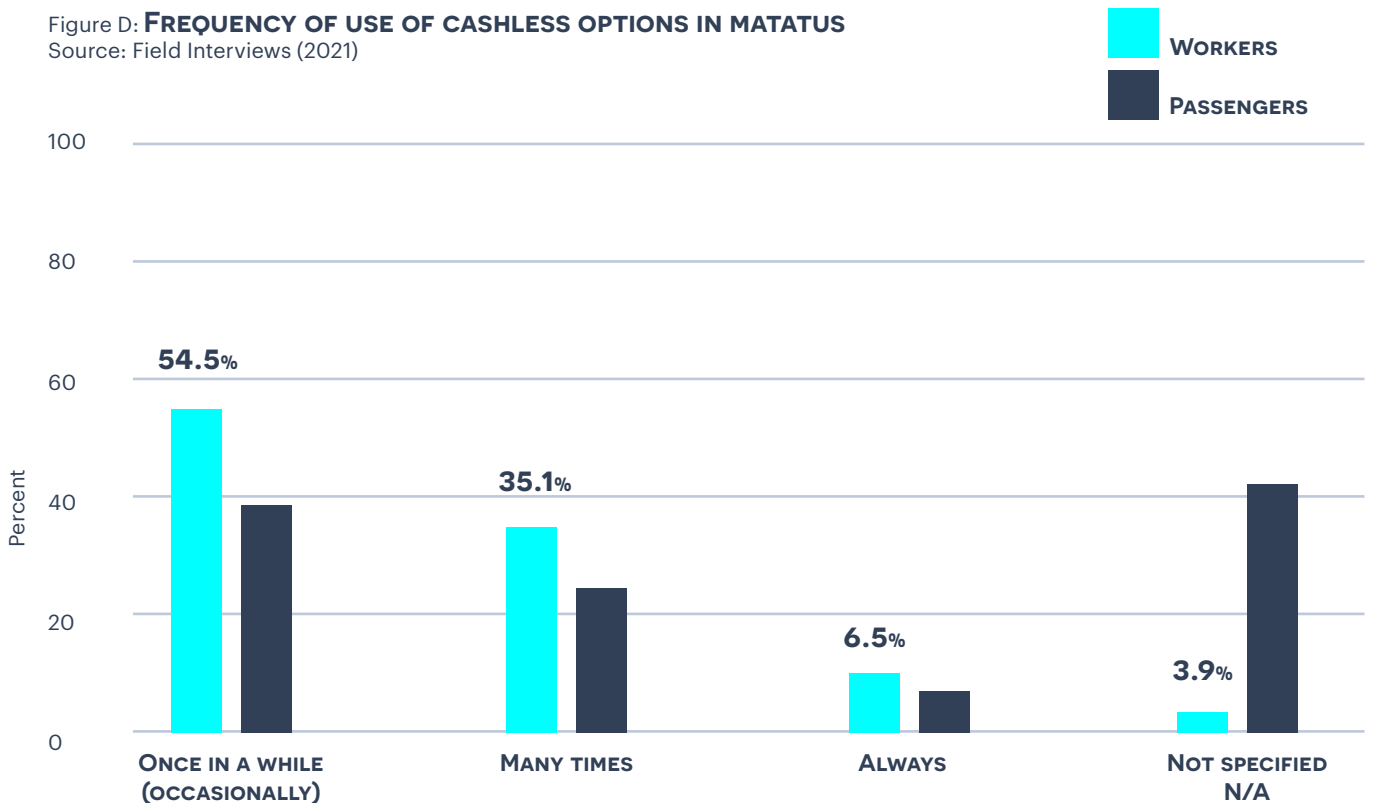


3.3.4 FREQUENCY OF USE OF CASHLESS PAYMENTS

Despite the wide acceptance of cashless payments, their use in fare payment is irregular. Over half (42 - 54.5 percent) of the matatu workers had used cashless options occasionally in the recent past, while 27 (35.1 percent) had used them many times, and a paltry five (6.5 percent) all the time (Figure D).

Similarly, passengers had not fully embraced cashless modes, as 36.8 percent used them once in a while, 15.8 percent many times, and 5.3 percent always. It is possible that some workers used or accepted cashless payments simply to comply with government directives on Covid-19.

Figure D: FREQUENCY OF USE OF CASHLESS OPTIONS IN MATATUS
Source: Field Interviews (2021)





3.3.5 PASSENGERS' VIEWS ABOUT SAFETY OF CASHLESS PAYMENTS

Cashless payments are perceived to be safe. Of the 11 passengers who used cashless forms, 10 felt that they were safe while one felt they were unsafe. Those who thought they were safe cited as reasons the reduced risk of forgetting to get change or being overcharged, the ease and convenience of use, the ability to track payments and the reduced chance of passenger-crew confrontations. The passenger who felt unsafe feared losing their phone or their data privacy and compromise of their identity. While payment to a phone seems to be the most convenient, the practice of a crew member having to give out their personal mobile number could raise accountability and safety concerns, particularly among women. It is therefore better that vehicle owners or SACCOs provide workplace mobile phones and numbers.

3.4 IMPACT OF CASHLESS PAYMENTS ON INFORMAL TRANSPORT WORKERS

The Covid-19 pandemic has greatly affected public transport. Public attitudes are largely negative, with matatus perceived as a major weakness in terms of Covid-19 transmission and workers, who are at high risk because of the number of passengers they interact with, are perceived as possible transmitters.

Government efforts to minimise exposure to Covid-19 – through lockdowns and travel restrictions, social distancing requirements, limiting PSVs to carry only a third of their usual passenger capacity and dusk-to-dawn curfews that reduce operating hours – have directly or indirectly impacted on labour issues in the sector (Reuters, 2021)²³. In addition, the recommendation to work from home where possible and the closure of informal workplaces such as bars and restaurants have reduced travel needs, resulting in fewer vehicle trips and fewer passengers. These implications for the sector are discussed further below.

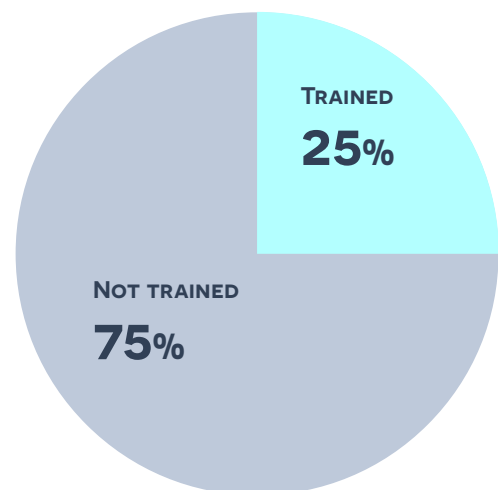
3.4.1 TRAINING ON USE OF CASHLESS MODES

The use of cashless payment options can be enhanced if workers are trained in and sensitised about their use. The training could include exposure to a variety of cashless payment platforms and their benefits, operation and processes, such as the cost implications, payment validation steps and duration, and passenger interaction platforms; as well as important features like protecting worker and passenger privacy when personal data is exchanged. In terms of existing methods, the training could include exposure to USSD applications, mobile wallets, bank integrated systems, card-based and paper systems and the validation periods of different modes. The training can be provided by the platform developers, service providers or other interested parties, including SACCOs, workers' associations and unions.

In terms of determining who should benefit from the training, it would be expected that PSV workers, particularly conductors, drivers and others involved directly in handling payments, would get priority. However, the results of this study reveal that only a quarter of workers (24.7 percent) had been trained in cashless payments, despite their widespread acceptance of these methods (Figure E).

PERCENT OF WORKERS TRAINED

Figure E: Workers' training on cashless options
Source: Field Interviews (2021)





In fact, many of those trained were SACCO officials. Out of 19 workers who had been trained, eight were SACCO officials, five drivers, three route managers and one vehicle owner. Only two conductors had been trained, despite making up most of the sector's workers and being the ones who deal most with passengers and handle payments.

The training was offered by several service providers, including Safaricom, commercial banks like Equity and NCBA, app developers and SACCOs, such as Umoinner, Ngumo Line, City Hoppa, and Utimo. These are also mainly the key players in the development and provision of cashless platforms.

The training included the use of different apps (eg Safaricom M-Pesa, PayBill and Till Number); the use of ticketing machines, gadgets and printing of receipts; fare payment, validation and confirmation; and guiding customers on how to use the apps. It focused specifically on the platforms and services offered by the training providers. This study found that 15 (19.5 percent) of the 19 workers who took part expressed the need for additional training on cashless payments – six drivers, three conductors, three SACCO managers, two route managers and one matatu owner. They suggested that topics should include a wider range of cashless options, such as cards, other gadgets and cashless platforms and apps in addition to M-Pesa. They wanted more focus on the benefits of cashless payments and a wider range of service providers, SACCOs and vehicle owners to be involved in the training.

The packaging of worker training needs further reflection. As a basic minimum, a standardised cashless training curriculum that incorporates all these aspects should be developed and used to train workers, regardless of the platform they opt to use. Additional training can be offered by service providers once SACCOs, vehicle owners or workers decide on the platform to use.

The study results also showed reluctance among female workers to participate in the training, mainly because of the potential loss of income or a training schedule that did not suit their work arrangements. Training providers need to ensure that women workers

are included by offering free training at flexible times.

3.4.2 IMPLICATIONS OF COVID-19 ON EARNINGS IN THE MATATU SECTOR

The transport sector globally is one of the hardest hit by Covid-19, with the impact also affecting allied sub-sectors, such as hotels and tourism. Within public transport, the worst affected were vehicle owners and workers, who bore the brunt of reduced incomes, restricted movement and an increased risk of getting Covid-19.

To minimise these effects, PSVs increased fares. This study did not examine whether this increase effectively cushioned the workers, SACCOs, vehicle owners and unions against the negative economic shocks but the case of an 11-seater matatu plying a Nairobi-Thika route provides a simple example. Prior to the pandemic, vehicles on this route carried 11 passengers per trip and charged Kshs 25, so making Kshs 275 per journey. With the Covid-19 outbreak, they ferried only seven passengers per trip and charged Kshs 30 each, earning Kshs 210 per trip.

In another case, a shuttle company plying the Nairobi-Nakuru route carried 18 passengers per vehicle per trip and charged Kshs 400, a total of Kshs 7,200. With the Covid-19 outbreak, the capacity was reduced to seven passengers who each paid Kshs 700 (and sometimes less), thus earning around Kshs 6,300 per trip.

These scenarios were repeated across the country and showed reduced earnings per vehicle trip of between 13 and 24 percent. At the same time, the workers were expected to wash the vehicles more regularly each day and provide sanitisers to passengers – although these requirements appear to have been relaxed over time and were not fully complied with, perhaps due to logistical and cost implications and the lack of enforcement structures. With the re-opening of the country, travel resumed but PSVs still had to maintain social distancing.

On the positive side, reduced passenger numbers could mean that vehicles were making more trips and had less idling time



but the study's findings on this were not conclusive.

Reduced vehicle earnings may mean lower earnings for the workers, even if fares have been increased. At the same time, passengers need to be protected through fare regulatory mechanisms from being overcharged, as they are equally affected by the pandemic. An official from the Public Transport Operators Union (PUTON) noted:

“ I think the government can implement the laws to ensure that the systems work. For instance, Dandora route have no systems in place like the KBS or Double M and they pay fares of Kshs 100, yet you find places like Utawala which is a further distance charging only Kshs 50 since they are managed well and they have a system that works.”

The study results show 57.1 percent of the workers interviewed said that their earnings did not change because of the introduction of cashless payments (Figure F). Nearly a quarter (24.7 percent) said their earnings had

reduced and only a few (7.8 percent) claimed to have earned more, although this could not be directly attributed to cashless payments and might be made up of vehicle owners who could perhaps get their money directly. There was no difference between male and female workers.

The results above show that even though the entire matatu sector experienced a reduction in income, this reduced the earnings of only a quarter of workers. This could be because over half of the vehicle owners (55.8 percent) reduced the daily set targets to help cushion workers against Covid-19 related losses. The targets remained the same for 24 workers (31.2 percent) but for the rest of the workers (10 - 13 percent) the situation is not clear.

Those who earned less found it difficult to meet their daily targets and, as noted by some union officials, could not negotiate for changes in their employment terms. Even then, however, some kept a little money to themselves and decided on the amount to give to the vehicle owners. With the re-opening of the economy, there was a high likelihood that vehicle owners would revert to the pre-Covid-19 daily targets.

Figure F: **CHANGES IN EARNINGS DUE TO CASHLESS PAYMENTS**
Source: Field Interviews (2021)





3.4.3 JOB LOSSES DUE TO INTRODUCTION OF CASHLESS PAYMENTS

When asked whether there were job losses due to the use of cashless payments, most matatu workers (89.2 percent) reported that there were none, with only a few (10.8 percent) claiming there were some (Figure G). The latter attributed the job losses to the fact that some vehicle owners took over conductors' jobs during the pandemic, rather than to the use of cashless payments. For example, one vehicle owner replaced his conductor because of the poor turn of the economy, not because of the introduction of cashless payments. Data on the actual number of jobs lost in the sector could, however, not be determined. One respondent noted that "ours is a day-to-day job so it depends on one's effort".

Cashless payments, with or without Covid-19, are likely to indirectly affect workers for other reasons. For instance, women are likely to be affected when conductor jobs are lost, perhaps losing the gains made in increasing their participation in the sector. In addition, the introduction of technology, including cashless payments, and the accelerated digitalisation of payments and ticketing services, might particularly reduce women's jobs, unless action is taken to protect them and ensure women's inclusion in the development and implementation of new technology and services.

Callers and loaders are also likely to be affected because they are not directly employed by the vehicle owners.



The losses we have are due to mistrust between driver and conductor and not cashless payments... there were no job losses due to introduction of cashless payment since M-pesa is just complementary, we still use cash."

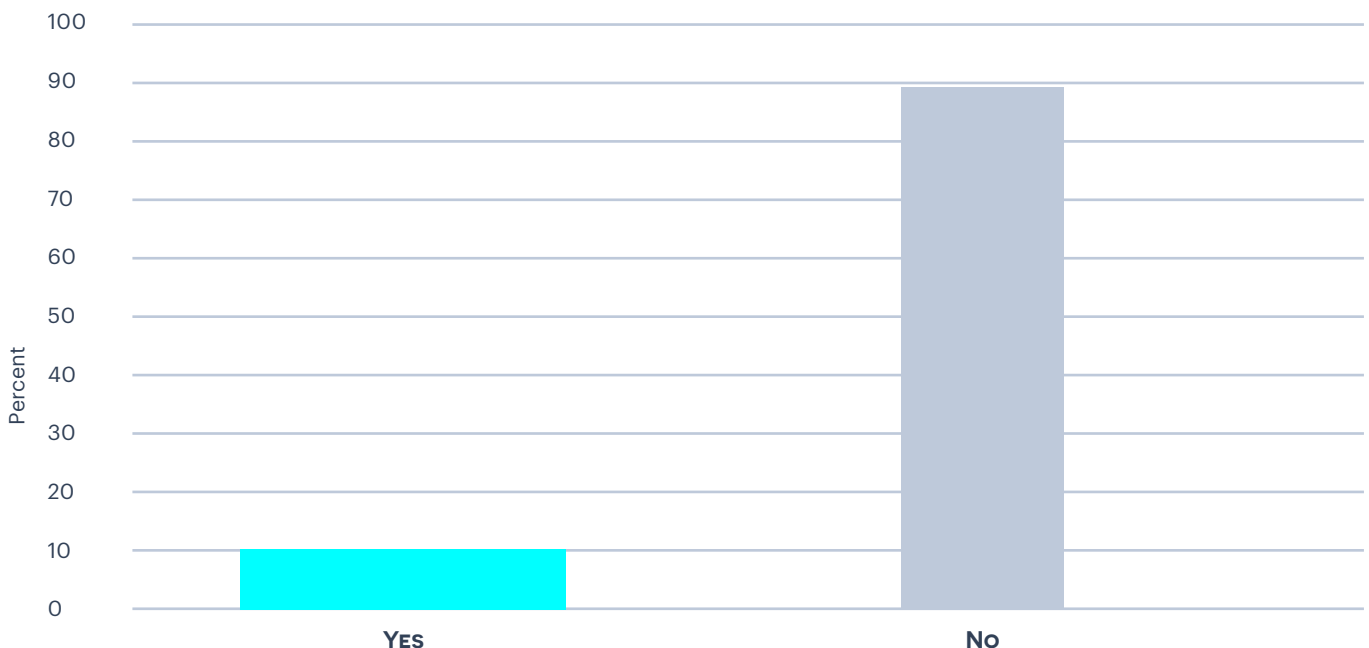
Matatu worker



Cashless payments will bring formalization. It will be a gain to workers if they ask for better working conditions. Although this will mean that the stage workers will now lose their jobs."

PUTON official

Figure G: **JOB LOSSES DUE TO CASHLESS PAYMENTS?**
Source: Field Interviews (2021)



3.4.4 METHODS OF PAYMENT OF WORKERS POST COVID-19

Most matatu workers in Kenya are paid daily, based on agreed targets (Spooner and Manga, 2019) and workers deduct their wages from the earnings (Kamau, forthcoming).

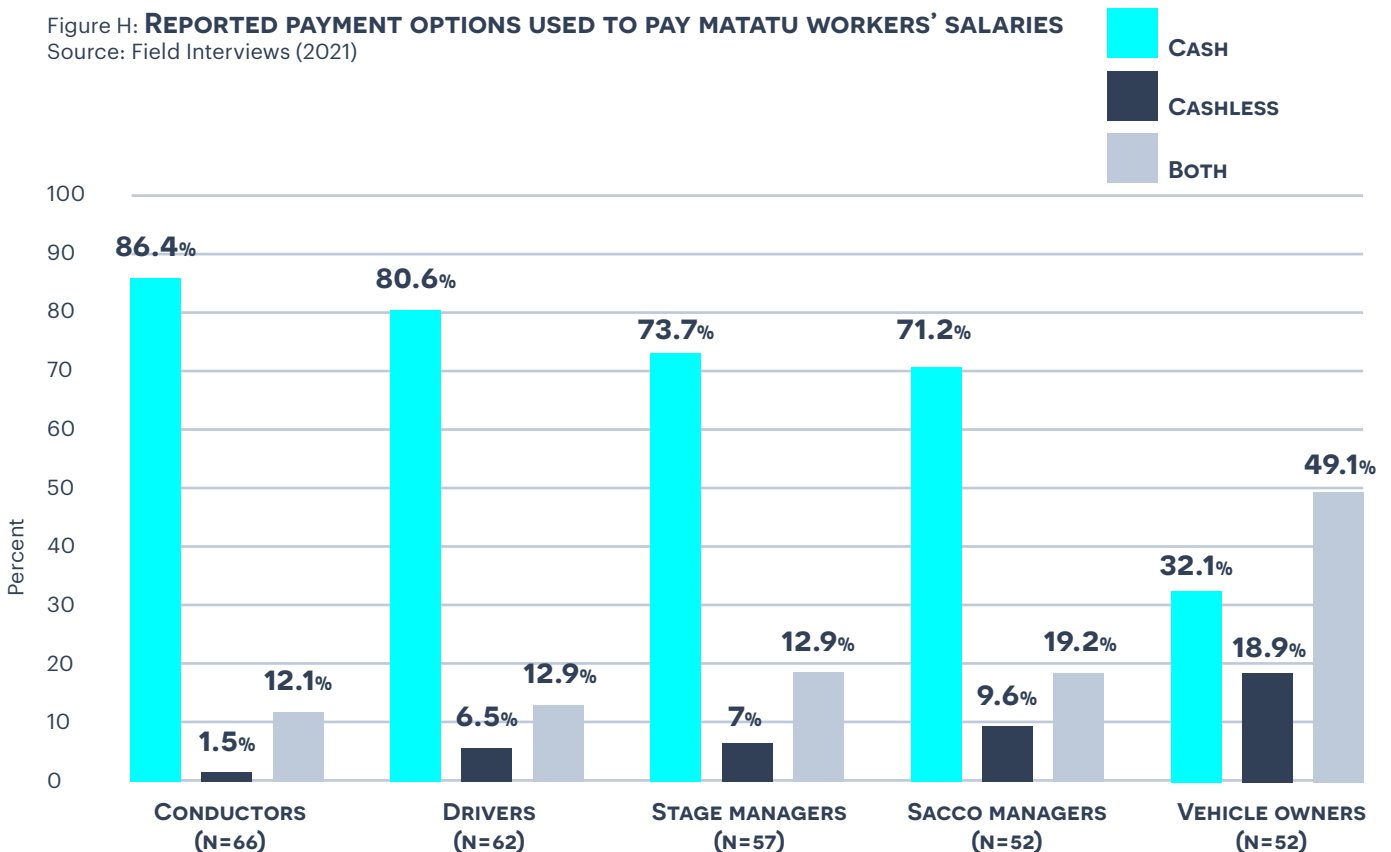
With the increased use of cashless options, and the fact that crew, SACCOs and vehicle owners have access to money through the platforms, it would be expected that workers would also be paid using cashless methods. Results, however, showed the contrary, as most workers were still paid using cash options (Figure H), perhaps because cash fare methods were still highly used. Payment by cash was higher for conductors and drivers. Interestingly, vehicle owners had a higher representation of those paid using cashless modes, perhaps because the money was paid directly to their phones or because workers transferred the money paid via cashless modes to them in the same form, for instance, through M-Pesa or direct banking. The reasons why workers are paid in cash need to be understood since they are the ones who handle passenger fares.

3.4.5 EFFECT OF CASHLESS PAYMENTS ON SAVINGS ABILITY

The proportion of workers who were saving since the introduction of cashless payments was 29.9 percent (23 people). A higher number (9) noted that with cashless payments, it was easier to save compared to cash payments.

Some workers transferred the money directly from their M-Pesa numbers to the M-Shwari, a paperless micro-credit banking service offered jointly by Safaricom and KCB through M-Pesa, which allows customers to save and earn interest and to access micro credit products (loans) at an interest. Others saved the extra money left after meeting their daily target. Those who did not save cited a lack of cash when money was paid directly to vehicle owners or SACCOs, reduced earnings or they had few cashless transactions to enable them to save.

Figure H: **REPORTED PAYMENT OPTIONS USED TO PAY MATATU WORKERS' SALARIES**
Source: Field Interviews (2021)





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3.5 WORKERS' EXPERIENCE WITH CASHLESS PAYMENTS IN MATATUS

3.5.1 WORKER EXPERIENCES IN USING CASHLESS PAYMENTS

Public transport workers have both positive and negative experiences associated with cashless payments. As shown in Table 4, cashless payments had not affected the matatu sector according to 75.3 percent of workers, who indicated that they continued to work in the same way as before cashless modes. For some, cashless payments had improved their work environment, while others had negative experiences.

Table 4: **EFFECTS OF CASHLESS PAYMENTS ON TRANSPORT SECTOR**
Source: Field Interviews (2021)

EFFECT OF CASHLESS PAYMENTS ON WORK		FREQUENCY	PERCENT
No, it has not affected		58	75.3
Improved work			
	Minimized risk of losing money	2	2.6
	Minimized confrontations	2	2.6
	Convenient	1	1.3
	Accountability of charged fares per trip	1	1.3
Negative effects			
	Extra amount made by conductor eliminated	3	3.9
	Loss to the worker	2	2.6
	It is stressful	1	1.3
	Have to work extra hard to make money	1	1.3
	Conflict between conductor and owner	1	1.3
	All cash goes to owner	1	1.3
Total		77	100.0

X <https://www.safaricom.co.ke/personal/m-pesa/do-more-with-m-pesa/loans-and-savings>



3.5.2 BENEFITS OF CASHLESS PAYMENTS

Asked whether they had experienced benefits from using cashless payments, only 11 (14.3 percent) workers said they had, while 55 (71.4 percent) said there were no benefits.

The cited benefits include minimised risk of losing money, convenience and ease of payment and enabling workers to save. Some said cashless payments helped to get rid of rogue passengers who ask crew for change even when they have not paid a fare and eliminated the chance of using fake currency that contributed to workers' financial losses. Others noted that cashless payments promoted positive relationships between passengers and crew by reducing confrontations over fare charges and change, and made it easy for workers to access loans. In one case, the respondent indicated that they received cash rewards due to their high use of cashless modes. Some reported that cashless methods enhanced workers' and passengers' safety and security and discouraged thieves known to ride in matatus mainly to steal from passengers. Others noted that passengers could track their payments even when their phones were lost or stolen.

“If you lose your phone you can replace it and still get your money in the replaced simcard... no one knows your pin in case you lose your phone’.”

Matatu worker

For workers, cashless payments reduced the risk of car-jacking, mainly attributed to the social distancing due to Covid-19 that resulted in less crowding when boarding and on board vehicles. This enhanced the safety of passengers and crew who would be targeted by car-jackers.

“I rarely hear about cases of car-jacking of late... robbers cannot know how much I have collected.”

Matatu worker

Most workers (45 - 58.4 percent) thought that cashless payments had improved security in cash handling, reduced theft, improved workers' accountability and minimised the leakage of cash not given to the owner. Discussions with the workers revealed that some crew did not remit or declare the money paid to them via M-Pesa, while some refused to accept cashless payments, preferring cash to pay for vehicle operation expenses like fuelling, cleaning, dealing with police or paying the callers (kamageras).

“There has to be a willing employer and a willing employee. Conductors must have cash to pay those who fill seats, they have to reach the set target, cover operational costs and have something in their pockets, which is now affected when the money goes directly to the owner. That is why the implementation of cashless systems will remain a challenge, unless the jobs are formalized such that the workers can be assured of job security.”

TAWU representative

3.6 NEGATIVE EXPERIENCES ASSOCIATED WITH CASHLESS PAYMENTS

Cashless payments have in some cases led to negative experiences for workers and passengers. Some workers (21 - 27.3 percent) felt that cashless payments were not safe while 11 (14.3 percent) were non-committal.

System and behavioural challenges also discouraged workers and passengers from using the modes (Figure I). The reported challenges include systems delays, loss of gadgets and resultant confrontation between passengers and workers.

3.6.1 FEAR OF FARE REVERSAL BY PASSENGERS

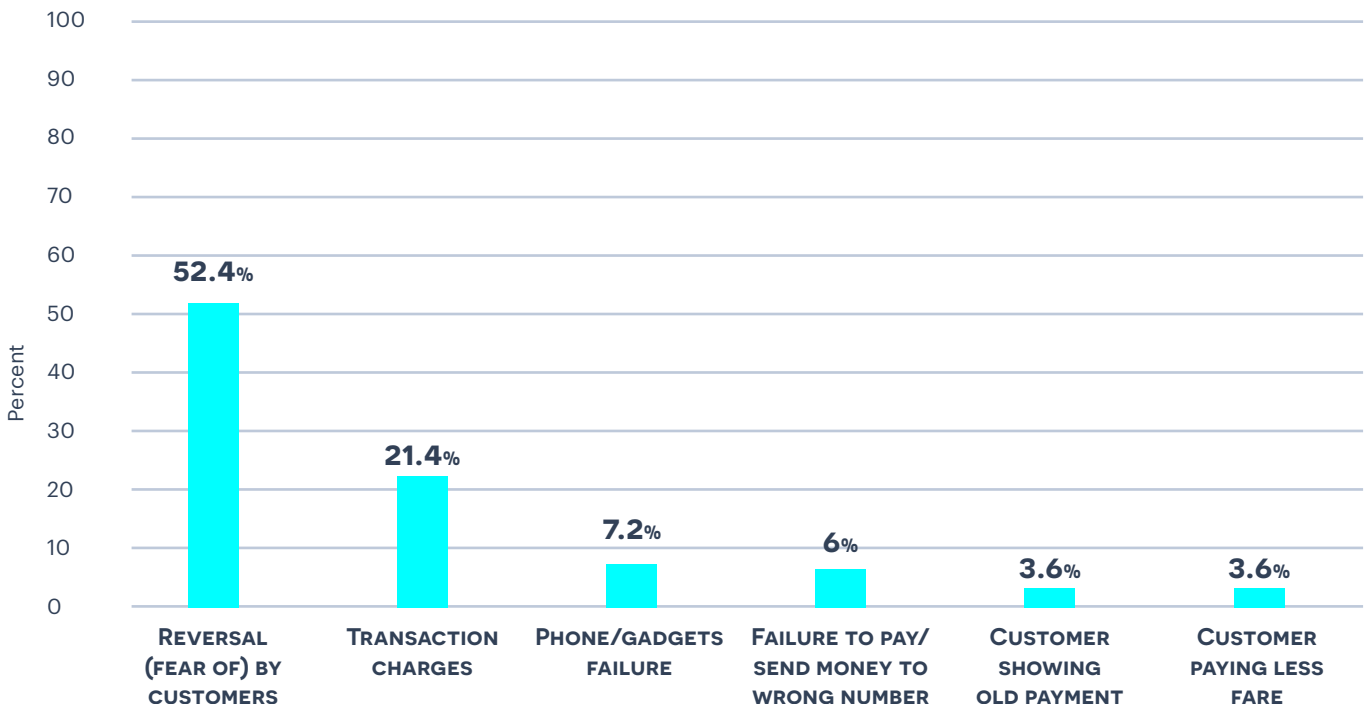
The main reason workers were reluctant to accept cashless payments was the fear that dishonest passengers might reverse fares paid through cashless modes like the M-Pesa, fail to pay but show the conductor fake validation of previous payments or cancel payment before completing the transaction. When such things happen, workers have to pay from their own pocket and this affects their daily returns.

Within the M-Pesa services, it is possible for customers to reverse payment (presumably paid to a wrong number) by forwarding a message to 456 and the money would usually be quickly reversed. Due to public outcry, especially from business owners and traders, Safaricom introduced a mechanism whereby reversal was restricted until the recipient of the money approved the request. However, most workers still feared that the money could be reversed, especially if the call came when they were busy. Recent observations revealed that most matatus had reverted to cash payment modes despite the increased risk of Covid-19 infection following the government's relaxation of restrictions passenger capacity.

“Recently, I boarded a matatu from Kitengela to town; it had a sticker which was boldly written, ‘Don’t use M-pesa’. When asked the reason for doing this, the conductor said that it is because when the money is sent to his personal number, at the end of the day when doing his accounting, he finds out that he has a shortage since it was reversed.”

PUTON official

Figure I: **NEGATIVE EXPERIENCES OF CASHLESS PAYMENTS**
Source: Field Interviews (2021)



3.6.2 CONCERNS ABOUT MOBILE LOANS

Workers stated that having mobile money loans created challenges and contributed to their reluctance to accept cashless payments. Short-term mobile money loans, known as *Fuliza*^{XI}, are common in Kenya as they offer quick relief for many low-income earners, who may lack alternative financing sources. Media reports suggest that the financial implications of the Covid-19 pandemic led to an increased uptake of these loans and increased the repayment burden for the borrowers^{XII}. These loans are instantly repaid whenever money is deposited to the borrower's mobile line. This means that if a crew member has a *fuliza*, when the passenger pays a fare to their phone number, the loan amount is deducted automatically from the payment, even if the worker planned to delay repayment.

Perhaps to address this challenge, Safaricom introduced a platform called *Pochi la Biashara*^{XIII} targeted at business owners, including PSV operators. This app enables separation of personal and business funds on the same M-Pesa line. To join and use the app, the user dials an M-Pesa USSD code *334# using their M-Pesa line to select *Pochi la Biashara*. To benefit, both crew and passengers need to have Safaricom registration on a Safaricom platform. If it becomes popular, the new platform could help PSV workers to separate their personal money from the money received from passengers, as well as reduce their fear of transaction reversals.

XI *Fuliza* This is a service that allows M-pesa customers to complete their M-pesa transactions (at an interest) when they have insufficient funds in their M-pesa accounts. The loan is paid when one tops up their M-pesa account. Hence, if a crew has *fuliza*, and the customer pays to their M-pesa, there is a risk of the money being taken up to pay the loan.

XII Kenya CitizenTV, Jul 18, 2021. *Debt of Shame: Unorthodox debt recovery tactics used by some digital lenders*. <https://www.youtube.com/watch?v=D862mm4kRM4>

XIII <https://www.safaricom.co.ke/business/sme/m-pesa-payment-solutions/pochi-la-biashara>



The use of Paybill looked like a better option but now the challenge is that it was likely to favour the owners. The workers think that this would affect them negatively since it would be hard for them to get hold of the cash. That is why we have introduced the Safaricom Pochi la Biashara which is not affected by *fuliza* loans and has minimized reversal issues'... we are pushing workers to fully adopt the *Pochi la Biashara* which is like a salary account that has financial records which in the long run can enable a worker to access a loan."

Key informant

Despite the availability of this option, few workers had used it, perhaps because it was relatively new. However, concerns about high transaction costs persisted, given that free transactions are offered only for amounts of Kshs100 and below and to Safaricom-registered customers. The *Pochi la Biashara* is therefore not equitable.

3.6.3 HIGH COST OF TRANSACTIONS

The high cost of cashless payment transactions can discourage passenger use. For M-Pesa and even the *Pochi la Biashara*, amounts paid above Kshs100 attract a transaction charge of Kshs6 for Safaricom users. For non-Safaricom users, the charge is Kshs45 for amounts ranging from Kshs101-500. Such charges are also applied by other service providers. The charges are high and borne by passengers and are particularly punitive for users who have to pay using a platform they have not registered with. Key stakeholders and service providers must look for ways to lessen the burden on users.



3.6.4 POTENTIAL SYSTEM FAILURES AND INCREASED BURDEN OF VALIDATING PAYMENTS

Cashless payments have created an increased burden for workers when they have to confirm fare payment. Systems challenges and occasional failures that delay payment confirmation make the methods less appealing to passengers. In addition, validation problems arise if, for example, mobile phones run out of charge, have poor network coverage or are lost or stolen. Time is also lost when the conductor has to confirm the payment.

In this study, six out of 19 passengers had experienced problems with cashless payments, mainly delays with M-Pesa systems or money not being accepted. This can lead to stressful confrontations between the crew and passengers. If a worker loses a gadget, they often have to replace them out of their own pocket. It is important that decision makers and app developers reflect these considerations when designing cashless platforms. Equally, it is important for SACCOs and vehicle owners to support the cashless platforms that are mostly preferred by passengers.

However, discussions with union officials show that sector operators are hardly consulted by the government in the planning for cashless payments, despite the fact that it is mostly transport operators who would ensure their success.



As a union we are the ones who brought cashless but unfortunately, NTSA has never engaged us directly. To encourage the use of cashless systems, we have to listen to workers. As a union, we are working with Safaricom to see how we can visit all workers. Unions also need to evolve and change their tactic to see how they can approach workers. There is a lot of sensitization to be done for workers to join unions, and the unions have to work with the Sacco officials."

TAWU official



The workers are to be represented by the unions yet sometimes the unions are not invited to the meetings. Cashless system has failed because the unions are not involved. Unions have the power to push for it but since force is used instead of engaging us, that is why it has failed."

PUTON official

3.6.5 POTENTIAL CONFRONTATION OVER CASHLESS PAYMENTS

The mix of fare payment options and inconsistency among operators in terms of what they did or did not accept presented different experiences for crew and passengers, with the potential for creating confrontation between them.

This study found that 35 (45.5 percent) workers had experienced confrontations with passengers while 39 (50.6 percent) had not. The main reasons for confrontation were fare reversal by passengers (cited by 16 workers) or if passengers wanted to make cashless payments while the crew insisted on cash (Table 5).

Conflicts also emerged when, for instance, the crew asked passengers to add withdrawal charges if they paid by cashless modes, the passenger did not inform the crew prior to boarding the vehicle, or if the passenger paid when they were about to alight and crew had to wait for payment confirmation. In some cases, crew refused to let passengers pay by cashless modes if they had fuliza loans.

Safety and privacy concerns over sharing private phone numbers with passengers particularly affect women workers. When owners refuse or fail to adopt cashless payments in their vehicles, it is the workers who have to deal with frustrated passengers.

Even when vehicle owners allow cashless payments, some workers still think that it is only the owners who benefit.



... cashless payments are a gain to the employer but a loss to the workers because the driver and the conductor tend to earn more when they are the ones handling the cash. Workers are paid peanuts and so with the cashless system even when they work overtime, they will not be paid extra cash."

PUTON representative

3.6.6 CASHLESS PAYMENTS AND REDUCING CORRUPTION

It would be expected that cashless payments would end the endemic corruption in the matatu industry. Yet only 18 of the 77 respondents thought that corruption had reduced when money is not paid in cash or directly to vehicle owners. Some remarked that police do not take bribes unless someone breaks traffic laws and understand that Covid-19 means that workers have less money.

However, most workers thought that corruption was still rife and reported using cash paid by passengers to pay for police bribes. And 15 workers (19.5 percent) viewed corruption as normal and workers needed to have cash in case they were arrested.



Conductors have learnt to co-exist with the police and to some extent I believe the drivers and the conductors actually need the help of the police."

TAWU official

3.7 ADDRESSING NEGATIVE EXPERIENCES AND CHALLENGES ASSOCIATED WITH CASHLESS PAYMENTS

The challenges resulting from cashless payments are resolved in both confrontational and non-confrontational ways. While around half of workers supported the use of cashless payments, there was reluctance among some to receive M-Pesa payments, especially using their own phones.

Table 5: **REASONS FOR CONFRONTATION OVER CASHLESS PAYMENTS**
Source: Field Interviews (2021)

REASONS FROM PASSENGERS	FREQUENCY	PERCENT
Reversal issues	16	38.1
Payment done when passenger is about to alight	3	7.1
Refusing to use cashless (passengers)	3	7.1
Not informing conductor prior to boarding on use of cashless	2	4.8
REASONS FROM THE CREW		
Refusing M-pesa payments when they have fuliza	3	7.1
Asking passengers to add withdrawal charges when they pay	6	14.3
Refusing to introduce/accept cashless	2	4.8
Fighting or abusive language by crew	1	2.4
OTHER REASONS		
Incomplete transactions	2	4.8
Taking time to pay when using cashless	1	2.4
Delay by M-pesa	1	2.4
Payment to wrong number	1	2.4

Workers felt they could not deny passengers cashless options for fear of flouting the government directive requiring them to accept cashless payments. Some crew accepted losses that arose as a result of cashless payments, or even allowed passengers to go without paying (26 percent) rather than take cashless payments or argue with passengers. These reduced earnings were particularly hard if workers paid from their own pockets to meet their daily targets.

The more diplomatic ones contacted Safaricom if there were delays or asked passengers to send the money as airtime.

Workers found many ways to discourage cashless payments. In some SACCOs, a stage worker or route manager informed passengers about the accepted payment modes in their vehicles and whether the systems were functional or not, and could claim the systems were down and ask passengers to pay by cash. Some workers opposed to cashless payments announced before passenger boarding that cash must be used, to avert possible confrontation. Others clearly displayed notices in their vehicle advising passengers how to pay. In one vehicle, a PayBill number displayed had been scribbled over so that passengers found it difficult to read the number. One conductor preferred a passenger to ride free as opposed to paying via M-Pesa.

Interestingly, there were also vehicles that encouraged the use of cashless payments. One SACCO, which previously operated as school transport but discontinued due to school closures during the pandemic, allowed only cashless payments.

Where the crew did not accept cashless payment and a passenger insisted on it, the crew risked being forced out of the vehicles and suspended by the SACCO – but it was not clear how often this happened.

In the study, 17 workers (22.1 percent) insisted on cash payments, while four (5.2 percent) asked passengers to withdraw cash before boarding their vehicle or to add withdrawal charges if they paid using cashless modes. Some collected fares early to avoid last minute payments and confrontation with passengers.

“

I always make sure that I have cash when boarding a Matatu. I go to an M-pesa agent, withdrawal the money and then board the vehicle. But nowadays, Matatus are slowly reverting to the cash payments.”

Passenger

Results showed that while cashless methods were encouraged, they were not widely accepted. This meant a missed opportunity in regularising their use in public transport.

“

Two weeks ago, the Forward Prestige route (Town-Juja Road-Kayole junction) introduced the use of cashless systems and I decided to try it. I sent the fare to the till-number provided and then just kept quiet. So, when the conductor asked me for cash, I said I had already paid using the till and he said ‘the till is not working’ and I wondered why not. This just shows you the level of uptake of the cashless systems.”

PUTON official

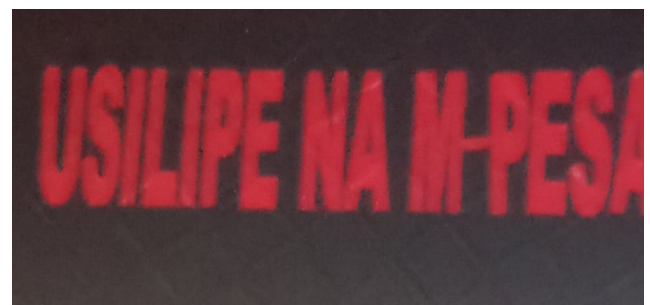


Image: This message reads ‘do not pay by M-pesa’

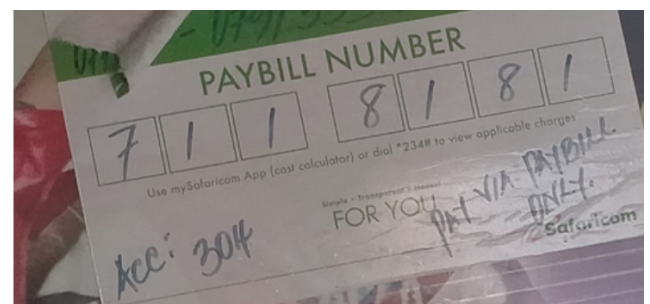


Image: This message reads ‘pay via Paybill only M-pesa’.

Figure J: Messages showing discrepancies with regard to cashless payments



3.8 ENCOURAGING USE OF CASHLESS MODES

3.8.1 CASH HANDLING VERSUS CASHLESS PAYMENTS

The crew handle fare payments in matatus, except where the vehicle owners or SACCOs are paid directly. Cashless payments have created little change as most workers (78 percent) still received the fare payments (Table 6). The conductors still mostly handled the payments (49.4 percent) but in 19.5 percent of cases, the payments were handled by both drivers and conductors, and in 9.1 percent of cases by the drivers. Almost all the female workers handled payments, as most worked as conductors – 11 of them handled the payments singly, while in three cases they

did so with the drivers. For men, 46 out of 63 handled payments, while the rest worked where payments were handled by SACCOs, vehicle owners, technology companies or direct payment to banks (eg via PayBill).

Cashless payments have the potential to give SACCOs and vehicle owners more control of the vehicles if they handled the payments. This could imply less money for workers but the use of cashless payments could mark the beginning point in formalising the sector, where workers would get regular incomes rather than relying on daily targets.

Overall, however, the study results showed that workers still handled and controlled the vehicle earnings and remitted agreed daily target amounts to the owners.

Table 6: **WHO RECEIVES THE PAYMENTS**
Source: Field Interviews (2021)

WHO RECEIVES THE PAYMENT	FREQUENCY	PERCENT
Conductor	38	49.4
Both driver and conductor	15	19.5
Driver	7	9.1
SACCO	6	7.8
Vehicle owner	4	5.2
Technology company (specify)	3	3.9
Bank (with Apps support)	1	1.3
N/A	3	3.9
TOTAL	77	100.0



3.8.2 CASHLESS PAYMENTS AND PREVENTION OF COVID-19

On whether cashless payments helped to curb the spread of Covid-19, there were mixed responses.

Prior to the Covid-19 outbreak, 33 workers (42.9 percent) used cashless payments while 44 (57 percent) did not (Figure K). Post the pandemic, this had changed dramatically – with 98.7 percent using cashless payments while only 3.9 percent did not.

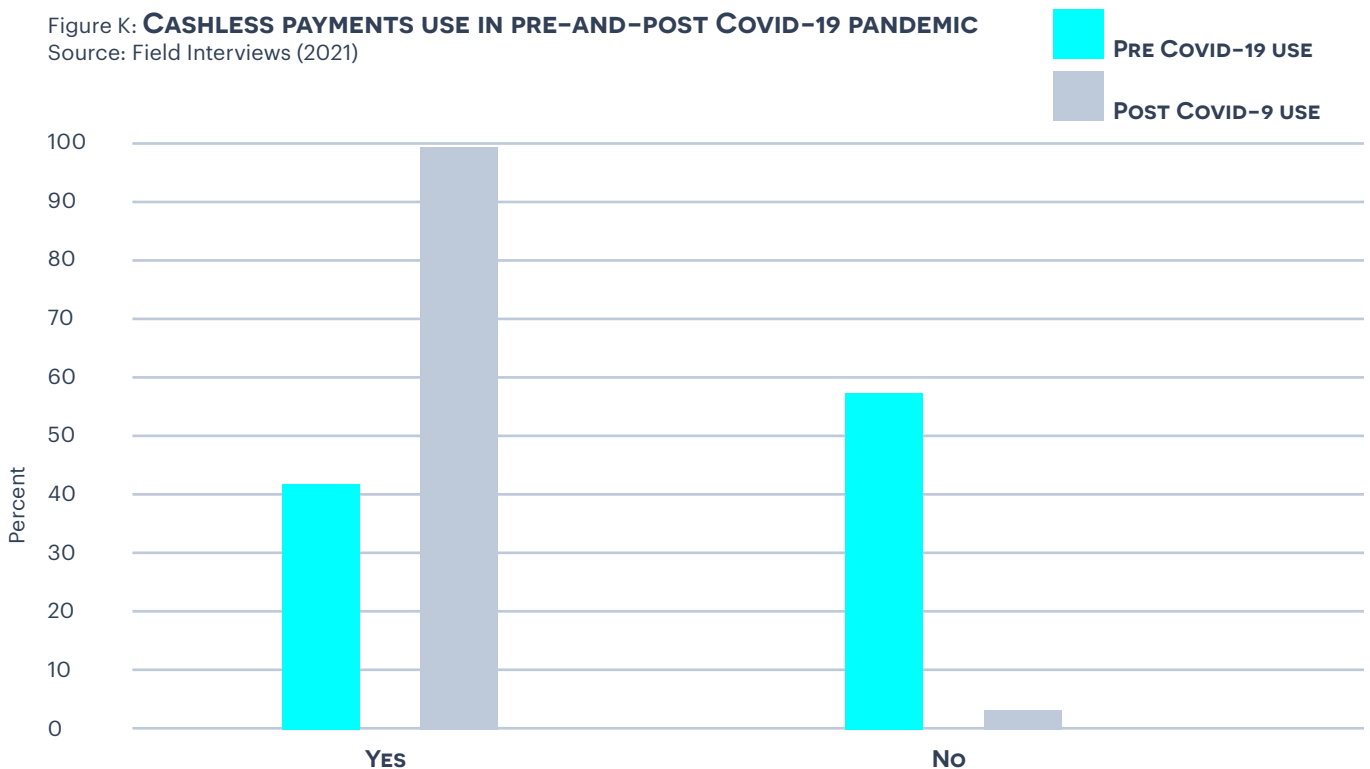
Following the Covid-19 pandemic, 32 workers (41.6 percent) thought that the reduced cash handling and direct passenger contact involved in cashless modes had reduced the risk of spreading the virus. Against this, 25 (32.5 percent) argued that they still handled cash and had not been infected, while 20 (26 percent) were noncommittal, indicating that cashless payments were not strictly enforced.

3.8.3 SHOULD CASHLESS PAYMENTS BE ENCOURAGED?

Over half of the workers (42 - 54.5 percent) agreed that cashless payments should be encouraged in the matatu industry, while 35 (45.5 percent) disagreed. Their reasons included loss of revenue if passengers reversed the money and challenges in confirming payments due to systems delays. They suggested the development of a system to alert the crew when payments are received. Other reasons included the lack of cash to pay for vehicle maintenance, slow uptake of cashless systems, high transaction costs, dishonesty among some workers and the risk of fare money being used to repay their mobile loans.

Among the passengers, the majority (17 - 89.5 percent) agreed that cashless payments should be encouraged. They cited as reasons ease of payment, enhanced accountability, tracking payments; improved trust between drivers and conductors; enhanced safety, reduced risk of car-jacking; and reduced corruption.

Figure K: **CASHLESS PAYMENTS USE IN PRE-AND-POST COVID-19 PANDEMIC**
Source: Field Interviews (2021)

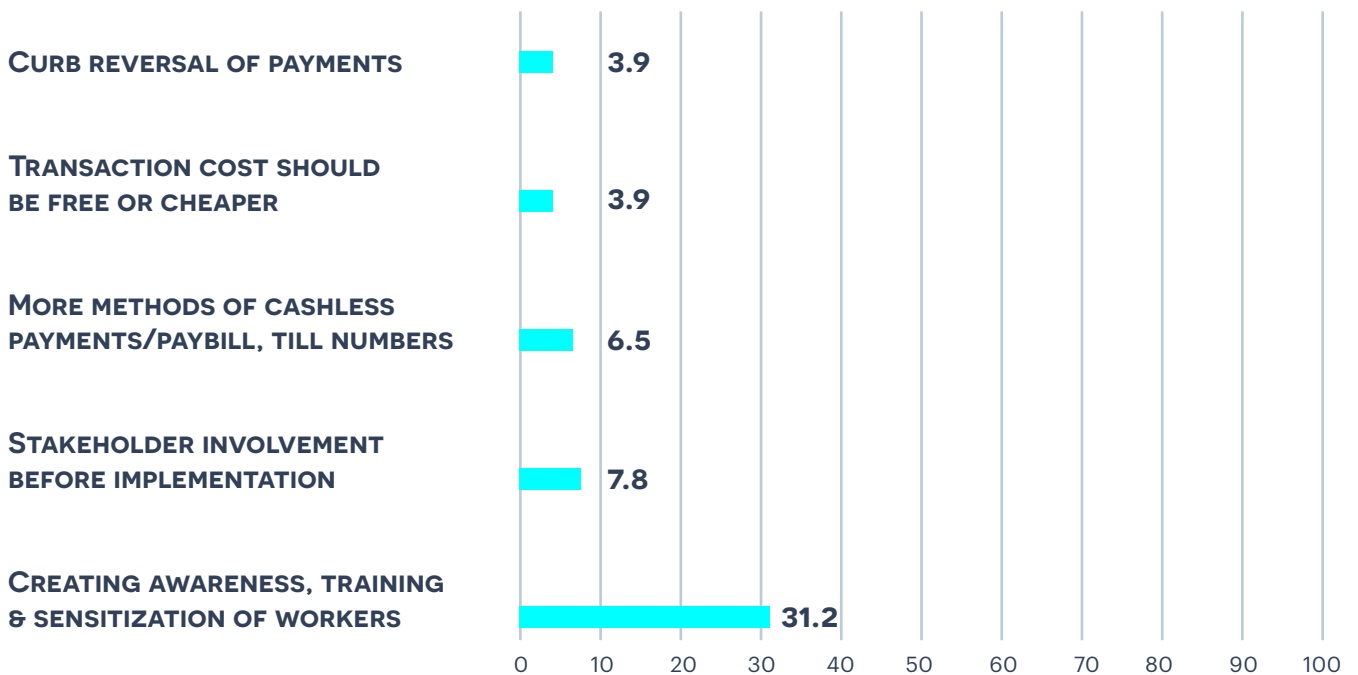




3.8.4 OPTIONS TO ENCOURAGE UPTAKE OF CASHLESS PAYMENTS

Several suggestions for encouraging uptake of cashless payments were made (Figure L). Top of the list was the need to create awareness, provide training and sensitise workers about cashless payments (31.2 percent). Others suggested the removal of transaction costs, addressing concerns about payment reversals, regulations to force compliance, and the rollout and acceptance of alternative payments, like the Visa card.

Figure L: **OPTIONS TO ENCOURAGE UPTAKE OF CASHLESS OPTIONS**
Source: Field Interviews (2021)



4. DISCUSSION

This report has shown that both the matatu crew and passengers agreed that cashless payments have many benefits for both groups. If implemented, they would enhance accountability of the workers and ensure that the investors, mainly the vehicle owners, also get fair returns on investment. By extension, this would enable the government to streamline the sector and reduce the risk of spreading Covid-19.

It has also shown that, despite these benefits, matatu crews remain reluctant to accept cashless payments, for a variety of financial and safety reasons.

As a result, there exists a confusing situation where some crew accept cash and some do not, while some accept both cash and cashless payments.

There is clearly a need to streamline cashless payments in order to improve both their acceptance and use. The concerns raised by the workers and passengers, SACCOs and vehicle owners regarding transaction charges and fear of fare reversal should be addressed by the government and the service providers. It is equally important to involve the unions and incorporate the views of the women workers who are steadily joining the industry. A TAWU representative indicated that the union had engaged Safaricom to explore the possibility of zero-rating cashless payments, even if withdrawal charges remained.

There is also a need to make cashless payments appealing to both passengers and workers. This should involve the government, together with service providers, SACCOs, the Matatu Owners Association, workers' representatives and their unions to review the transaction costs of cashless payments and to either waive or reduce them. As far as possible, a standardised payment platform should be developed that removes the burden of choice from the passengers or the crew, regardless of who the service provider is. Provision of cashless payments should not be an opportunity for the tech-companies to make huge profits but rather to provide services to the public in a cheap and cost-effective manner.

Once appropriate systems are established, it would be necessary to train the key sector players, especially those workers who deal with fare payments, on the importance of cashless payments.

There needs to be a focus on female workers to ensure that they participate in training and benefit from technological innovations – this requires addressing the factors outlined in this report that discourage women at present.

Previous attempts to introduce cashless fare payment options did not succeed, largely due to the failure to involve the users – transport workers and their unions; lack of economic incentives for workers whose earnings would fall; and poor coordination and self-interest among service providers, who wanted to cash in on the business opportunity. The Covid-19 pandemic and the high acceptance of cashless modes presents a significant opportunity for the government and all sector players to implement these methods and organise the sector.

To take advantage of this, the government needs to provide direction to the sector. First, it needs to eliminate the bottlenecks that derailed earlier attempts. Second, it must support the establishment of a joint system involving all key stakeholders to discuss and develop necessary policies and regulatory frameworks to ensure that cashless platforms are friendly, usable and accessible for all, and that compliance is improved without placing unnecessary burdens on crew or passengers.

The lack of full uptake of cashless methods could be made worse as the threat of spreading Covid-19 reduces. The high number of service providers who have entered the cashless market (the NTSA lists 29) may result in increased choice of providers but this study shows that not only have PSV operators not been fully involved in the decision-making processes but in fact, they were left to decide when and whether to use cashless payments while lacking the incentives and support systems to ensure that all passengers paid their fares using cashless methods.

This could mean several things. Perhaps matatu workers have not fully appreciated the importance of cashless payments in protecting them against Covid-19 while they are still grappling with the challenges of cashless



payments this report has presented (GLI, 2019)²⁴.

All these issues need to be addressed while taking steps to educate workers about the threats of cash handling and the benefits of using cashless payments.

It is important to recognise that the introduction of cashless payments is likely to impact on public transport jobs, both in the short-term and in the long-term. That is why introduction of these modes should include discussions on how to mitigate or address such losses. This requires broad engagement and involvement of the government and all transport stakeholders to evaluate how current efforts fit within other public transport improvement plans, such as bus rapid transit systems, that are also likely to impact on jobs in the sector.

While considering the options for encouraging use of cashless payments, it is important to understand the incentives that encourage workers to support them and the barriers that discourage them, particularly relating to the integration of systems.

The fact that workers have to meet their daily financial targets, also considered as vehicle rental fees (Spooner, 2019)²⁵, means that the reduced incomes would leave them with less money in their pockets. Spooner notes that the target system means low and insecure incomes for the workers, forcing them to work exceptionally long hours. These financial gaps must be bridged to win support for cashless payments. Unfortunately, the renewed attempts to introduce them still tend to fall into the same trap (Business Daily, 2021)²⁶.

The keen interest of several transport and financial sector players in Kenya to compete for contracts to implement cashless payment options in itself creates a challenge for workers and passengers, especially when the systems are not connected. In the previous attempt, passengers who wanted to use cashless payment had to buy different payment cards and use only the vehicles that accepted those cards. Unless the government and stakeholders work to integrate different service providers into one platform, the opportunity provided by the threat of Covid-19 to boost take up of cashless payments might be lost.

Public transport workers, their unions and sector operators can play a vital role in enhancing the use of cashless payment modes, if they are fully engaged, informed and sensitised and well incentivised. In addition, workers must be provided with the correct technology and support systems. And there need to be regular gender impact assessments to monitor and evaluate the use and uptake of cashless payments in the matatu sector.

5. CONCLUSIONS AND RECOMMENDATIONS

As observed by Tinka and Rogers (2019), the matatu sector is a complex multi-stakeholder environment with a myriad of actors and players, each protecting their interests. The drive towards cashless fare systems clearly demonstrates this complexity and highlights the challenges that the government, vehicle owners and SACCOs, sector workers and their unions have to navigate. While there is willingness to introduce and promote the use of cashless methods, competition among the tech companies to cash in on the profits from them make services costly and therefore unattractive to users and workers. This is compounded by the lack of incentives towards replacing workers' incomes lost as a result of going cashless. This is despite the threats posed by the Covid-19, and the push by the government to roll out these platforms.

Ensuring the success of cashless payments should focus on the past, the present and the future. While the Covid-19 situation presents real threats, it is important to frame the cashless payment debates beyond the pandemic. It must be seen as a system issue that requires an understanding of passenger and worker behaviour as well as a political economy issue. Whatever the motive of service providers, efforts to initiate cashless payment methods should provide social, economic and financial incentives to persuade workers and passengers to opt for them. There needs to be constant evaluation of the development and implementation of cashless payments and of their impact on workers' earnings, personal safety, training and relations with passengers.

There is evidence that women are increasingly entering the sector, working mainly as conductors. While both male and female workers are affected by the introduction of cashless payments, women are at a disadvantage because they have not benefited from relevant training, which reduces their chances of accessing and participating in decent work in public transport.

Including women in the rollout of cashless payments should be promoted through the

provision of free and flexible training and the provision of necessary support, including phones and other gadgets, to improve their work conditions. The government curfew, which resulted in a reduction in operating hours, brought both benefits and disadvantages to female workers: while they had more time to carry out other social and family roles, because most work as conductors they were more likely to lose their jobs.

Recommendations for promoting the use of cashless payments during the Covid-19 pandemic

As a result of this study, there are seven key recommendations:

- 1.** The involvement and inclusion of all key matatu sector players and stakeholders – including male and female workers, their associations and unions; the SACCOs and vehicle owners; and passenger representatives – is necessary in all consultation on cashless payments, the adoption and use of new technology and other measures introduced into the transport sector. These consultations should incorporate gender impact assessments to evaluate how women in particular benefit or are disfranchised by these developments.
- 2.** The training of workers on cashless payments is necessary and should ensure that both men and women participate. Effective training requires the development of standard training curriculum and manuals and must be provided uniformly to all trainees while being flexible enough to allow women to participate. Prior to rolling out such training, it is important to identify and map existing training programmes across the country. A workers' survey is also necessary to identify skills sets and training needs.
- 3.** Public education and sensitisation about the benefits of cashless payments, particularly during the Covid-19 pandemic, is key. This must promote, for instance, the fact that they are convenient, safer (in terms of reducing the risk of car-jacking and petty theft), reduce the risk of spreading Covid-19, reduce the potential for crew and passenger conflicts and enhance accountability and trust between workers and



vehicle owners. The education should also tackle the possible negative outcomes and how to address them, for instance, concerns about safety and data privacy from sharing personal numbers, particularly for female workers; and the possible reversal of fares by passengers that could reduce workers' earnings.

4.

The technical and systematic challenges that limit full uptake of cashless systems should be addressed. These include the causes of delays in confirming payments, possible reversal of fares and the cost of transactions.

5.

The government must direct and coordinate the rollout of the different cashless platforms in order to curb the competing interests of service providers and promote integrated services. Cashless payments are ideal for organising the informal public transport sector in Kenya but the government must push for a waiver or reduction of transaction costs. It is important both that service providers benefit from their innovations and that the government protects the interests of investors, particularly vehicle owners, workers and passengers. That is why cashless payment platforms should be provided through integrated, standardised and low-cost platforms, with regulated fees agreed upon by key stakeholders, including the young and innovators.

6.

Kenya must learn from its past failures to implement cashless payments, which are well documented. It is worrying that analysis of the current efforts by the NTSA to promote the use of cashless payments in the matatu sector reveal the repetition of previous mistakes. For example, the widely reported licensing by the NTSA of 29 service providers, even though they cover the whole country, could be too many if they are not well coordinated and if there is a high concentration in Nairobi. A rethink of the current implementation plan is needed, involving all key stakeholders who stand to benefit and lose from these initiatives.

7.

Given the Covid-19 pandemic, all stakeholders need to take seriously the threats posed and embrace the important role that cashless payments can play to reduce the risks of spreading the virus. There should be continuous campaigns to roll out these platforms, enforce their use and engage the key sector players. In addition, continuous evaluations, including gender impact assessments, on what works best for the sector should be undertaken, as well as documentation of successes. Matatu workers, their unions and passengers are critical in the success of the programmes and their views should be carefully considered alongside those of service providers, to enhance success and quick adoption of cashless payment methods in the public transport sector.

REFERENCES

- 1 McCormick, D., Orero, R., Behrens, R., and Ommeh, M. (2015). Cooperatives as a means of paratransit reform: case studies of inter-city matatu savings and credit cooperatives in Kenya. https://repository.up.ac.za/bitstream/handle/2263/57753/McCormick_Cooperatives_2015.pdf?sequence=1&isAllowed=y
- 2 Kamau, A. (2021). Informal transport worker organizations and social protection provision in Kenya. In Lone Riisgaard, Winnie Mitullah, Nina Torm, (EDS), Social Protection and Informal Workers in Sub-Saharan Africa: Lived Realities and associational experiences from Tanzania and Kenya. Routledge, Francis & Taylor.
- 3 Tinka, A. and Behrens, R. (2019). Cashless fare collection in sub-Saharan African paratransit: a review of experiences. Conference paper, 38th Southern African Transport Conference, Pretoria. https://www.researchgate.net/publication/343960993_CASHLESS_FARE_COLLECTION_IN_SUB-SAHARAN_AFRICAN_PARATRANSIT_A_REVIEW_OF_EXPERIENCES.
- 4 Kamau, A., & Mitullah, W. (forthcoming). Women's Value Creation in Informal Public Transport Enterprises in Kenya. In Yousafzai, S., Henry, C., Boddington, M., Sheikh, S., & Fayolle, A. (Eds). Research handbook of women's entrepreneurship and value creation. Edward Elgar Publishing.
- 5 Kamau Anne (forthcoming). Organisation and social protection for informal transport workers in Kenya. Book Chapter – in review process.
- 6 Kibuacha Frankline, 2021. Mobile Penetration and Growth in Kenya. Geopoll. Accessed at <https://www.geopoll.com/blog/mobile-penetration-kenya/>
- 7 Itimu Kiruti, 2020 21st February. Kenya 2019 Census Data Reveals More Women than Men Own Mobile Phones. Techweez news. Accessed at <https://techweez.com/2020/02/21/kenya-census-2019-mobile-phone-ownership/>.
- 8 Alemu A. (2014). Microbial Contamination of Currency Notes and Coins in Circulation: A Potential Public Health. Hazard Biomedicine and Biotechnology, 2014, Vol. 2, No. 3, 46-53 Available online at <http://pubs.sciepub.com/bb/2/3/2> © Science and Education Publishing DOI:10.12691/bb-2-3-2.
- 9 Gardner B. (2020). Dirty Banknotes May be Spreading the Coronavirus, WHO Suggests. Available at: <https://www.telegraph.co.uk/news/2020/03/02/exclusive-dirty-banknotes-may-spreading-coronavirus-world-health/>.
- 10 Brown Dalvin, 2020. Can cash carry coronavirus? World Health Organization says use digital payments when possible. Medical Express. <https://medicalxpress.com/news/2020-03-cash-coronavirus-world-health-digital.html>
- 11 LitTransit, 2020. Insights: The future of payments in public transport. <https://lit-transit.com/insights/the-future-of-payments-in-public-transport/>
- 12 Wright, T. (2018), The Impact of the Future of Work for Women in Public Transport. International Transport Workers Federation (ITF) and Friedrich Ebert Stiftung, Women Transportation in the world. <https://www.itfglobal.org/en/reports-publications/impact-future-work-women-in-public-transport>.

- 13 Kamau, A. (2018 November 22 –23). Women transport workers: social protection and labour issues. In Naomi Mwaura (Moderator), Understanding Women in Transport [Panel Discussion]. Women in Transport Conference, Nairobi, Kenya. <https://eastafriawitconference.files.wordpress.com/2018/12/anne-kamau.pdf>.
- 14 Nyiendo, O.S. & Munywoki, E. M. (2014). Matatu e-ticketing system -An Assessment of Cashless Paying System for Public Transport in Kenya. School of Science and Technology, USIU, Nairobi, Kenya. <https://mistscholars.wordpress.com/2014/08/07/matatu-e-ticketing-system-an-assessment-of-cashless-paying-system-for-public-transport-in-kenya/>.
- 15 Wangalwa, E. (2015). Kenya's Matatus go cashless. Retrieved from <http://www.cnbcfrica.com/news/east-africa/2014/05/29/kenyas-matatus-go-cashless/>.
- 16 Chaux Marlen, 2014. Why Kenya's public transport system is fighting cashless payments. Blog. <https://www.gatescambridge.org/our-scholars/blog/why-kenyas-public-transport-system-is-fighting-cashless-payments/>.
- 17 Kimani Michael (3rd August 2018). Guest Opinion; How Nairobi Matatus Defied the Will of Kenya's Cashless Policy Makers. The Kenyan Wall Street. <https://kenyanwallstreet.com/guest-opinion-how-nairobi-matatus-defied-the-will-of-kenyas-cashless-policy-makers/>.
- 18 iPay support (2020). Benefits of Using a Cashless Payment System. Retrieved from <https://ipayafrica.com/benefitsofusingacashlesspaymentsystem/>.
- 19 Intelligent Transport, 2020. Contactless payments come to Nairobi's matatu bus networks. <https://www.intelligenttransport.com/transport-news/111680/contactless-payments-come-to-nairobis-matatu-bus-networks/>.
- 20 Kariuki, A. (2020. June 02), NTSA seeks ban on use of cash for matatu fares. Business Daily, Retrieved from <https://www.businessdailyafrica.com/bd/news/ntsa-seeks-ban-on-use-of-cash-for-matatu-fares-2291602>.
- 21 Nation Media Group (NMG), 2020 June 2nd. NTSA seeks ban on use of cash for matatu fares. Business Daily. <https://www.businessdailyafrica.com/bd/news/ntsa-seeks-ban-on-use-of-cash-for-matatu-fares-2291602>.
- 22 Nderitu Francis, 2020 August 31st. Matatus face fines for cash-only fares. Accessed at <https://www.businessdailyafrica.com/bd/news/matatus-face-fines-for-cash-only-fares-2299864>.
- 23 Reuters (3rd January 2021). Kenya extends night curfew to March to curb COVID-19 spread. <https://www.reuters.com/article/health-coronavirus-kenya-idINKBN2980DJ>.
- 24 GLI (2019). Nairobi Bus Rapid Transit: Labour Impact Assessment Research Report. Global Labour Institute, Manchester.
- 25 Spooner Dave (2019). Bus Rapid Transit (BRT) and the Formalisation of Informal Public Transport: A Trade Union Negotiating Guide. Global Labour Institute, Manchester.
- 26 Business Daily (5th January 2021). Safaricom, NCBA win cashless matatu fares platform contract. <https://www.businessdailyafrica.com/bd/corporate/companies/safaricom-ncba-win-fares-platform-contract-3247192>.



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