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Review of South Africa's public transport system

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ABSTRACT

This paper provides a review of public transport policy and strategy initiatives in South Africa for the period 1996 to 2021 and reviews the progress made in public transport provision against the policy guidelines and strategies of the 1996 White Paper on National Transport Policy, relevant strategies, and legislation.

Formal public transport is increasingly losing market share against the informal minibus taxi industry. In the 2021 National Household Travel Survey minibus taxis accounted for 80.2% of work trips in 2020 compared to 67.2% in 2013 and 63% in 2003 while buses accounted for 16.6% (19.5% in 2013 and 22% in 2003) and train 3.2% (12.9% in 2013 and 15% in 2003) of work trips respectively.

The research finds that a lack of policy implementation is at the center of the issues experienced in public transport in South Africa together with a lack of adequate transportation planning and financing. Most public transport users are not served by BRTs and the high-speed Gautrain services and have become largely dependent on the informal, lightly regulated, minibus taxi industry for their transportation needs. Users are dissatisfied with public transport services in the country. Policy objectives set out in government policy documents are, in general, not being achieved.

1. Introduction

Policy is defined as "a statement of intent" as policy specifies the basic principles to be pursued by the government in attaining specific goals and is often presented as a formal policy with the publication of a White Paper (Cloete & Wissink, 2005). Implicit in policy development is the involvement of stakeholders that have an interest in the policy area being developed. Stakeholders enrich the policy process by defining the needs to be addressed by the policy; providing policy information; assisting with option development as well as evaluation; overcoming barriers to implementation and with implementation processes (Stopher & Stanley, 2016). According to the authors, there are therefore considerable functional benefits of involving stakeholders in the policy-making process in addition to the important matter of having the right to be involved in the process. In the development of the 1996 South African White Paper on National Transport (WP) policy process the Department of Transport listed 127 stakeholders that participated in the policy review process and reported that 71 stakeholders' comments were received on the Green Paper on National Transport policy before the WP was published (DoT, 1996).

The implementation of a policy is, however, a political decision and in the case of transportation in South Africa, a function of the Department of Transport (DoT), often in collaboration with provincial governments. Having said this, the participants in the WP process would have a legitimate expectation that the policy process in which they participated would be implemented given that all stakeholders participated in an open and transparent process and arrived at a "consensus" view about the future development of the transportation sector in the country.

Obstacles to policy implementation are, however, many and complex in nature, some of which could be a lack of skills to support the implementation process, poor management, systems support, financial constraints, legal challenges to the policy implementation, a change in government views, pressure from strong lobby groups and unforeseen externalities such as poor economic growth, fiscal and monetary constraints, urbanization, etc.

South Africa has not been immune to these challenges and in particular public transport policy implementation. Organized labour has been opposed to a competitive tendering system in the commuter bus industry (a White Paper objective) (see Walters, 2008 and Walters, 2013

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for a discussion of the issues experienced) and the concessioning of commuter rail services, as foreseen in the WP was abandoned due to political opposition to the concessioning of commuter rail services following a ministerial change in 1998.

The aim of this paper is to review public transport policy, strategy initiatives, and the development of public transport provision in South Africa for the period 1996 to 2022. It sets out to provide a high-level review of the policy and strategy objectives and compare them with the current performance of the public transport system. To the authors' knowledge, this paper contributes a longitudinal review spanning, over 26 years, of the performance of the current public transport system against the set policy and strategic objectives of South Africa. The following section provides a summary of the most important policy statements related to public transport in the country.

2. Public transport policy evolution from 1996 to 2022

A challenge in reviewing public transport policies and strategies for this paper is the sheer volume of policy, strategy, and legislation that has been developed in relation to public transport since the dawn of the South African democracy in 1994. Therefore, in reviewing the policies and strategies, and in the context of this paper, a focus has been placed on the high-level policy and strategy objectives.

Policymakers have correctly focused on public transport as one of the burning issues due to the many challenges of accessibility, affordability, and safety in public transport affecting millions of daily commuters.

Public transportation is essential for the development and functioning of any country. In South Africa, public transport comprises three main modes of transport: the informal and lightly regulated minibus taxi industry (mainly 16-seater mini-buses) that is the dominant public transport mode with a worker commuter market share of 80,2%, followed by subsidized commuter bus transport with a market share of 16,6% and subsidized rail commuter services with a market share of 3,2% (NHTS, 2021). In addition to these main services, the country has a high-speed rail service, Gautrain, comprising about 80 km in length between Oliver Tambo International Airport to the east of Johannesburg linking the airport to Johannesburg's main station (Park Station) and Pretoria (its main station and another at Hatfield in the east of Pretoria). Progress has also been made with the introduction of BRT services in cities such as Johannesburg, Pretoria (Tshwane), and Cape Town as well as in other urban areas in South Africa.

The overall national governance framework for public transport is to be found in Schedule 4 Part A of the country's constitution (Act 07 of 1996) which states that public transport is a concurrent competence of national and provincial government and in Part B of the same Schedule, that municipal public transport is a municipal competence (RSA Constitution, Schedule 4, Parts A and B). The implication of this imperative is that public transport policy and strategy at the national level should also be agreed to by provincial governments, of which there are nine in South Africa. In addition, public transport should eventually be devolved to the lowest effective sphere of government meaning local or metropolitan authorities.

The various policy milestones for road-based public transport and commuter rail services were discussed in some detail in (Walters, 2013). In terms of this paper, only the most salient points related to public transport policy and strategy will be discussed to establish the context against which the current performance of the public transport system will be compared.

2.1. General policy objectives underpinning the development of the three public transport modes

The government's historic strategy for the country's transport sector is found in the 1996 White Paper on National Transport Policy (WP). The White Paper established a vision for transport in the country to *"provide safe, reliable, effective, efficient, and fully integrated transport operations and infrastructure which will best meet the needs of freight and passenger customers at improving levels of service and cost in a fashion which* supports *government strategies for economic and social development whilst being environmentally and economically sustainable"* (DoT, 1996:3). For land passenger transport, the WP mission statement states the following: *"the promotion of a safe, reliable, effective, efficient, co-ordinated, integrated, and environmentally friendly land passenger system in South African urban and rural areas … to ensure people experience improving levels of mobility and accessibility"* (DoT, 1996:19).

The 2021 revised White Paper (DOT, 2021:8) reconfirms the 1996 Vision for the development of the transport sector in South Africa but reformulates the mission statement for public transport as follows: "*To promote a safe, reliable, effective, efficient, coordinated, integrated and environmentally friendly public transport system by developing norms and standards as well as regulations and legislation to guide the development of public transport for rural and urban passengers*." (DoT, 2021:52). In essence the mission statement remains the same as well.

Following the 1996 White Paper, the DoT embarked on the Moving South Africa Strategy (MSA) which sought to flesh out the WP Vision statement in more practical terms by gaining a more data-driven, in-depth understanding of (amongst other) the issues faced by public transport as well as potential implementable strategic solutions to address the Vision and Mission statements. The Strategy identified issues related to a lack of basic access to public transport, an ineffective public transport system, increasing car dependence, and issues with spatial planning (historically driven through the policy of separate development by the previous government). Recommendations included the densification of public transport corridors, optimizing the modal mix, and improving firm-level performance that included, amongst others, concessioning of rail services and the tendering of commuter bus services.

After the WP and MSA and following an extensive consultation process, the National Land Transport Transition Act (Act 22 of 2000) was promulgated and came into force in December 2000. The Act was transitional in nature and dealt with (amongst other) the transition of public transport from the pre-democracy era of South Africa in 1994 to the new South Africa. Certain issues also required finalization at the time including funding issues, the conversion of operating permits of public transport operators, and the registration of minibus taxi associations and operators (DoT, 2000; 48).

In 2007 the DoT published two important strategy documents, the Public Transport Strategy, and the Public Transport Action Plan, Phase 1 (2007–2010): Catalytic Integrated Rapid Public Transport Network Projects (a more detailed discussion is included in (Walters, 2013). These strategy documents made provision for, amongst others, accelerated modal upgrades, implementing the taxi recapitalization programme, including improved regulation and law enforcement of the industry, and transforming and optimizing the then-current subsidized bus services. It also made provision for Integrated Rapid Public Transport Networks (IRPTNs) or Bus Rapid Transit systems (BRTs), in the main metros of the country. The main objective of BRTs was to develop a system that places 85% of a metropolitan city's population within 1 km of a BRT network or BRT feeder corridor. Another goal was to achieve a 20% mode shift of car work trips to public transport networks consisting of core road and rail trunk corridors with feeder and distributor systems with maximum physical and fare integration in such networks (Walters, 2013).

Following the NLTTA and the two Strategy Documents published in 2007, the National Land Transport Act (NLTA) (Act 5 of 2009) was promulgated in 2009. The Act is mainly focused on road-based land transport but does mention that rail should form part of the definition of a "*public transport service*" and that in relation to rail service level planning, it had to be done in consultation with the SARCC (PRASA) (DoT, 2009. Section 11 (c) xix). A planning authority must also submit its integrated transport plan to the Minister of Transport for approval of the commuter rail component of the integrated transport plan. The

NLTA states, amongst others, that the regulation of road-based transport services ought to be plan-based, and functions of various institutions in all three spheres (levels) of government should be combined where possible and rationalized. Planning authorities should also be responsible for the execution and the rationalization of services and the management of funds (for public transport). Integrated transport planning formed a major focus of this legislation (see Sections 31- 39 of the Act). The consolidation of responsibilities, by assignment, if necessary, should be pursued to achieve the above goals (DoT, 2009:48). The following sections provide an overview of policy developments and strategic initiatives that have been implemented specifically in the different sub-sectors.

2.1.1. Mini-bus taxi operations

The minibus taxi industry emerged in a highly regulated public transport market in the 1960s in apartheid South Africa in the form of four-seater sedans[1] (DoT, 2020b). Permits to operate taxi services were extremely difficult to obtain for black operators who saw the need to provide transport services to marginalized communities who were forced to live on the margins of the city far away from commercial business centers (DoT, 2020b). Black communities were therefore not adequately served by the expensive, scheduled, and subsidized bus and train services that operated mainly at peak times (SATS; DoT, 2020a).

The rapid deregulation of the public transport industry through the Deregulation Act of 1988 resulted in the legalization of the 16-seater minibus to operate as a taxi. This gave rise to many new entrants in the taxi industry and marked the beginning of the growth of the industry. This was attributed to the introduction of taxi operating licenses that authorized drivers to operate in regions within a 100 km radius of a central point. However, the growth of the industry resulted in an unregulated market.

From its inception, the mini-bus taxi industry has been heavily controlled by taxi associations that controlled the industry by governing the routes (Barret, 2003). Resultantly, the associations have been found to be one of the main instigators of taxi violence (taxi wars) as well as conflict with various tiers of government owing to their vested interests in the profitability of the industry (Barret, 2003; Dugard, 2001). The results of the lack of effective government regulation were poorly maintained vehicles and unsafe conditions for passengers (DoT, 2020d).

The rapid growth of the industry and the democratization of South Africa resulted in the need for the establishment of a National Taxi Task Team in 1995 to investigate the challenges of the industry and to propose recommendations for the industry's long-term viability. The NTTT's findings showed that the minibus taxi industry did not benefit proportionally from the subsidy system when its modal share was taken it account (NTTT. National Taxi Task Team, 1997).

The 1996 White Paper on National Transport Policy made provisions for the minibus taxi operators to benefit from the subsidy system by proposing the formalization of the industry, the formation of co-operatives, associations, or companies, or by collaborating with bus companies to compete collectively or individually for contracts issued by transport authorities. In addition, the Moving South Africa Action Agenda reiterated the need for better organization and regulation of the industry and the establishment of partnerships as prerequisites for tendering subsidized transport services for the minibus taxi industry. In 2001, the South African National Taxi Council (SANTACO) was created (following the recommendations of the NTTT and officially recognized as the only representative body for the taxi industry by the DoT) as a business association with the mandate to formalize the industry through collective bargaining to ensure conformance to labour practises as well as being the body through which the industry can access government subsidies (Barret, 2003; Dugard, 2001).

The minibus taxi industry has historically been informal in nature, resulting in limited access to capital from financial institutions, although some exceptions have actively funded the industry. Following the recommendations of the 1996 White Paper on National Transport Policy and the Moving South Africa Action Agenda of 1999, the Taxi Recapitalization Programme (TRP) was introduced in 1999. The aim of the TRP was to formalize the minibus taxi industry by enabling taxi operators to access capital to renew their vehicle fleets thereby providing safer transport and creating a sustainable value chain. The former entailed extensive vehicle upgrades whereby taxi owners would trade in their old vehicles for a scrap value of 20% of the new 18- and 35-seater taxis (DoT, 2020a). The latter, namely sustainability of the value chain, would be achieved through provision of equity in the businesses that manufactured, retailed and maintained the 'new' vehicles. In addition, this phase proposed the introduction of an electronic ticket management system (EMS) for cashless travel. However, the first phase of the TRP was not successful and was cancelled after six months. This was attributed to lack of buy-in from the industry as well as lack of affordability as the 20% scrap value was not sufficient to cover the costs of the new vehicles (DoT, 2020c). The TRP was reinstated in 2006 with the aim of improving industry safety standards and fixed scraping allowances. Through a competitive bidding process Anthus Services 84 (Pty) Ltd was awarded the contract to administer vehicle replacements for licensed minibuses on a ratio of 60: 40 in favour of the taxi industry. In 2016, it was estimated that one third of the old, licensed vehicles had been replaced (Parliamentary Monitoring Group (PMG), 2016). One of the main challenges in the realization of the TRP is lack of affordability of the new minibuses and that the scrapping value only accounts for approximately 20% of the cost of a new vehicle (Schalekamp, 2015).

2.1.2. Bus service contracting

Section 40 of the NLTA further states the following regarding contracted road-based public transport:

"Provinces and planning authorities must take steps as soon as possible after the date of commencement of this Act to integrate services subject to contracts in their areas, as well as appropriate uncontracted services, into the larger public transport system in terms of relevant integrated transport plans."

Sections 41 to 43 of the NLTA make provision for negotiated, tendered, and commercial service contracts for commuter bus services.

Section 47 deals with the rationalization of existing services to achieve more cost-effective and cost-efficient services whilst Section 49 deals with the recapitalization of minibus taxi services. This is a form of a capital subsidy where operators that meet the minimum requirements of the State e.g., being a registered legal operator and having a valid tax clearance certificate, could apply for capital cost assistance to acquire another vehicle. This scheme is generally referred to as the Taxi Recapitalization Programme (TRP).

2.1.3. Commuter rail operations

Regarding rail commuter services the 1996 WP envisaged that the Passenger Rail Agency of South Africa (PRASA) would own the commuter rail infrastructure, rolling stock, and land associated with rail reserves until the provincial or metropolitan transport authorities are able to take over the function. It also envisaged that operating and maintenance concessions would be awarded by transport authorities, initially at the national and later at a provincial or metropolitan level. Concessioning would also allow rail services to be operated on a competitive basis and assist in helping cut fare evasion and improve services (DoT, 1996: 24, 25).

In 2017 the Department of Transport (DoT) published a Draft White Paper on National Rail Policy (DRWP) for public comment. It envisaged that freight and passenger rail services should form the "backbone" of the freight and passenger transportation systems in the country encapsulated as follows in the Vision Statement: "*To recognise and understand rail's heritage of missed opportunities, strategic missteps and structural*

[1] Four-seater sedans were the only vehicle types allowed to operate as taxi services (Barret, 2003).

impediments, and hence to identify and mobilise funding *and resources to leverage rail's inherent competitiveness to reposition it as backbone of South Africa's land transport task."* (DoT, 2017: 31,32). The first policy goal states the following: "*Reposition the country's rail networks as transport backbone from which to serve the urban and medium-to-long-distance mobility needs of its natural citizens and the logistics needs of its corporate citizens*" (DoT, 2017: 32).

The DRWP foresees private sector involvement in alternative rail solutions such as light rail and the monorail as well as funding from "willing stakeholders" for PRASA services. (DoT, 2017: 77, 80). Outright concessioning of the general rail commuter service, as stated in the 1996 White Paper, is however not mentioned, but reference is made under funding alternatives to the following: *"Concessioning new routes, or upgrading and concessioning existing routes, as has been done for toll roads"* (DoT, 2017: 64).

In May 2022, the DoT published a new White Paper on National Rail Policy (DoT, 2022a). It aims to transform the rail system of South Africa over the following 20–30 years by, amongst other, more involvement of the private sector in freight and passenger rail services in the country. At present government is the owner of the infrastructure and the sole operator of the system (except for limited private tourist trains). The White Paper makes it clear that the infrastructure will continue to be owned by the state, but it could involve private sector funding for infrastructure and rolling stock (DoT, 2022a:12).

PRASA currently owns and operates all commuter rail services in the country, but the White Paper envisages the devolution of the function to municipalities in the future. In this regard, a devolution strategy is to be developed to assist municipalities in taking over the function. Concessioning of passenger rail services is also foreseen in the WPNRP, but only in areas where PRASA is unable to respond. On-rail competition is not foreseen (DoT, 2022a: 42). Private sector ownership of rolling stock is encouraged.

South Africa currently operates one rail concession, that of the Gautrain. This concession was agreed in 2006 between the Gauteng Province and the Bombela Concession Company in terms of which the concessionaire would design, partly fund, construct, operate, and maintain a rapid rail service under a 15-year concession. The province promulgated the Gautrain Management Agency (GMA) Act of 2006 to enable the GMA to manage the concession on behalf of the province. This concession introduced private sector participation in rail service, performance measures with penalties for non-performance and missing of targets, passenger and asset security, railway safety-by-design, and regional rapid rail service (DoT, 2017:14).

The following Table 1 summarizes a selection of main policy focus areas for the public transport modes.

The following section 3 provides an overview of the recent performance of the three main modes of public transport in South Africa.

3. Evolution of aggregate statistics on public transport provision from 2003 to 2022

The following sections provide an overview of the three public transport modes as well as the key policies and strategies that have shaped the state of public transport provision to date.

3.1. The development of the minibus taxi industry

The minibus taxi industry comprises medium-sized buses with a capacity of 13–16 seats. The industry accounts for the largest proportion of ridership in public transport accounting for 83% of the public transport journeys with most low-income households using minibus taxis for commuting trips (Statistics South Africa, 2021; see Fig. 1). Fig. 1 below shows that taxi usage has grown from 59% in 2003 to 83% in 2020 (all trips).

It is estimated that the industry accounts for 15 million commuter trips daily and generates annual revenue of more ZAR50 billion from

Table 1
A selection of policy focus areas for public transport.

1	Provide a safe and reliable transportation system (DoT, 1996:3); Improved regulation and law enforcement (PTAP; CIRPTN, 2007);
2	Meeting the **needs of passenger customers; Improving levels of service and cost for economic and social development** (DoT, 1996:3); Improving levels of mobility and accessibility (DoT, 1996:19); Accelerated modal upgrades (PTAP; CIRPTN 2007); Promote public transport that is effective in satisfying user needs (NLTA, 2009);
3	**Environmentally and economically sustainable transport** (DoT, 1996:3); Environmentally friendly (WP, 1996:19); 20% modal shift of car work trips to public transport (PTAP; CIRPTN 2007)
4	Environmentally and economically sustainable transport (DoT, 1996:3); **Ensuring sustainable and dedicated funding for passenger transport infrastructure, operations and law enforcement** (DoT, 1996: 19)**; Funding to be channelled through a single authority to ensure that transport operations do not receive funding from more than one authority** (DoT, 1996:25);
5	**Fully integrated transport operations and infrastructure** (DoT, 1996:3); Coordinated and integrated services (DoT, 1996:19); Provide an effective and efficient transport system (DoT, 1996:3); In urban and rural areas (DoT, 1996:19); **Integrated transport planning** (DoT, 2009); Promote a strategic and integrated approach to the provision of public transport (DoT, 2009); Ensure the integration of public transport modes giving due regard to the needs of users (DoT, 2009); **Regulation of services should be plan-based** (DoT, 2009); Promote effective integrated transport planning (DoT, 2009); **Minibus taxis to form collectives in the form of cooperatives, associations or companies and form partnerships with bus companies to compete for contracts** (DoT, 1996)
6	**Improving firm level performance including concessioning of rail services and tendering of commuter bus services** (MSA, 1998). Concessioning of commuter rail services (WP, 1996); Transforming and optimizing the current subsidized bus services (PTAP; CIRPTN 2007); Minibus taxi services to be improved, formalized into organisations and tender with bus companies for contracts (MSA, 1997)
7	**Optimizing the modal mix** (MSA, 1998). **Commuter rail the "backbone" of commuter transport** (DoT, 2017); Densification of transport corridors (MSA, 1998); Introducing BRT services (PTAP; CIRPTN 2007)
8	**Functions of various institutions in all three spheres of government should be combined where possible and rationalized** (DoT, 2009); Municipalities may establish a multi-jurisdictional service utility to coordinate functions (DoT, 2009)
9	**Taxi recapitalization** programme (PTAP; CIRPTN, 2007); Recapitalization of taxi services (DoT, 2009);

Note: A challenge in reviewing policies and strategies for this paper is the sheer volume of policy, strategy and legislation that has been developed in related to public transport since the dawn of democracy in 1994. Therefore, in reviewing the policies and strategies, and in the context of this paper, a focus has been placed on the high-level policy and strategy objectives.
Source: DoT (1996); DoT (2009); DoT (2017) PTAP (Public Transport Action Plan, 2007); CIRPTN (Catalytic Integrated Rapid Public Transport Network Projects, 2007); PMG (Parliamentary Monitoring Group, 2022); MSA (1998)

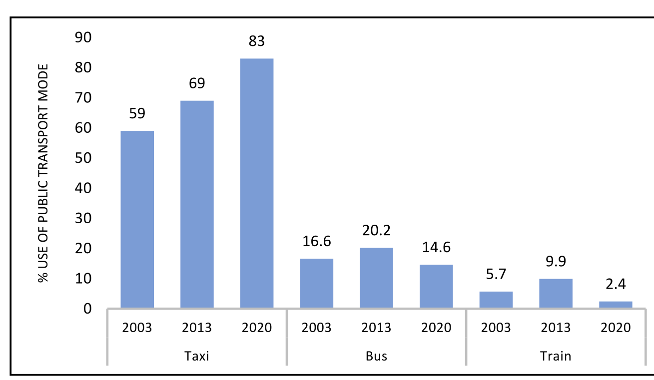

Fig. 1. Overview of RSA household use of public transport for all trips during the month preceding the NHTS survey, 2003, 2013 and 2020.
Source: Adapted form Statistics South Africa, NHTS 2003, 2013 and 2020.

fares (Electronic National Transport Information System (eNaTIS) 2017; DoT, 2020a). The size of the industry is unique to South Africa resulting in it being the only country to include the taxi industry as an independent industry on its social accounting matrices (Quantec, 2022). It is also classified as a paratransit mode, which is mostly informal and does not follow a fixed schedule (Behrens et al., 2016).

The industry is hyper-competitive resulting from the oversupply of services in an already saturated market (DoT, 2020b). This emanates from weak regulation in the issuance of operating licenses to new taxi operators as governed by the National Land Transition Act of 2000 and later the National Land Transport Act of 2009. Under the Transition Act of 2000 operating licenses for minibus taxis were issued by provincial regulatory entities (PREs) which comprised state employees in the transport department of the respective provinces (DoT, 2020b). Operating licenses should be issued subject to confirmation of the existing level of service provision and confirmation that the new operating licenses will support the municipal transport plans. By law operating licenses should be issued 60 days after an application is received. However, PREs seldom fulfill this turnaround time owing to a lack of human resource capacity to process the large volumes of applications and a lack of responsiveness and resultantly guidance from the relevant municipalities on the municipal transport plans. In addition, the PREs have been cited to be corrupt and exercise toxic management practices. Resultantly, the National Transport Regulator or PREs have been reported to issue new operating licenses with no regard for the existing levels of service provision or municipal transport plans (DoT, 2020c). The National Land Transport Act Amendment of 2020 revised the composition of PREs to non-executive members reporting to the head of the department. At the time of writing this paper, there was no published information on the effectiveness of the appointment of non-executives on PREs in reducing maladministration.

Other significant characteristics of the minibus taxi industry are weak government regulation (and government control), intensive competition, poor vehicle maintenance, reckless driving, unavailability of services in off-peak periods, and a lack of integration with transport plans (Behrens et al., 2016; Cervero, 2000; Saddier, Peterson, Johnson, & Wiseman, 2016; Schalekamp & Klopp, 2018). There are an estimated 200 000 taxis operating in South Africa with 30% of these operating illegally (with no operating licenses). Most of the registered operations are concentrated in the country's main economic hub the Gauteng, KwaZulu Natal, and Western Cape provinces respectively as shown in Fig. 2.

3.2. The commuter bus industry

The commuter bus industry consists of several distinct functions: school bus transport (privately owned and funded via short term

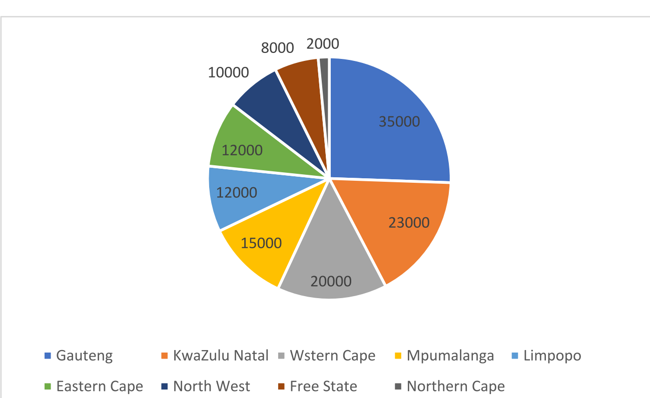

Fig. 2. Number of licensed mini-bus taxi operators by province, 2020
Source: DoT, 2020a

contracts with provincial departments of education and in some instances provincial departments of transport), municipal transport (owned, funded, and operated by municipalities), BRT services in some of the main metropolitan areas and contracted, kilometre-based, commuter bus transport funded via the Division of Revenue Act (DORA). The focus of this part of the paper is on contracted commuter bus transport as it represents a major form of commuter bus transport throughout the country and has been the subject of government's attention over the years in terms of public transport policy, strategy, and funding support. Reference will, however, also be made with progress made with BRT services as these services were envisaged in the 2007 Department of Transport Strategy documents alluded to elsewhere in the paper.

The commuter bus industry consists of 6353 buses that operated 225 million kilometres in 2019/20. It is funded via the DORAs Public Transport Operations Grant (PTOG) at a cost of R 6 billion (US$ 411m at an exchange rate of R 14.60 to the US Dollar) in addition to passenger fare revenues that the operators retain (all contracts are net cost contracts). The subsidy per passenger was R 22.21 and per revenue kilometre operated, R 26.76. This represents 270m subsidized passenger trips (R 6b/R 22.21). On average, the industry employed 2.1 employees per bus (Department of Finance, 2021).[2]

Over the years several papers discussed the issues experienced with commuter bus transport in South Africa (Walters, 2008, 2013, 2018, 2020; Walters & Heyns, 2012). From these publications the following major developments are noted.

- Approximately 68% of the subsidy budget for commuter bus services relates to Interim Contracts concluded with operators in 1997. The original intention was that the services under these contracts would be competitively tendered within three years.
- 28% of the subsidy budget relates to tendered contracts concluded between 1997 and 2002.
- 4% of the subsidy budget relates to negotiated contracts concluded in 2002/3 (This excludes a few smaller contracts in the KwaZulu Natal province negotiated in 2017).

Due to a lack of funds, as well as the lack of integrated transport plans, the contracting system was put on hold in 2002 (Walters & Heyns, 2012). This moratorium was lifted in 2017 with the advertising of three contracts in the Gauteng province (Walters, 2020), none of which were awarded due to their costs exceeding the Division of Revenue Act PTOG subsidy allocation that the province received. A few contracts in the KwaZulu Natal province were renegotiated in 2017 after they were initially tendered (Walters, 2020). In December 2021 the Gauteng provincial government advertised eight contracts after rationalizing all 32 existing interim and tendered contracts in the province into the eight contracts and invited bidders to bid for the services (Gauteng Provincial Government, 2019). The contracts were designed in 2019 and pre-dated the onset of the COVID-19 pandemic which delayed the tendering process to December 2021. The data for the respective tenders were collected in 2019 and was not adjusted to reflect the impact of the pandemic on passenger numbers or lower economic activity. The contracts were also road-based contracts only and did not attempt to integrate commuter rail and taxi services in a rationalized multi modal public transport system.

The tender process was subject to various legal challenges as it was alleged, firstly, by an operator that the province ignored the requirement of the NLTA that integrated transport plans had to be in place for

[2] The 2021 Division of Revenue Bill was the source for these figures as the figures for 2022 (captured in the 2022 Division of Revenue Bill) would not be representative due to the impact of COVID-19 on the industry. Once these Bills are debated and accepted in Parliament, they become the Division of Revenue Acts (DORA), 2021 and 2022 respectively.

contracting. Secondly, the representative body of the commuter bus industry in South Africa, the Southern African Bus Operators Association (SABOA) and the South African Bus Employers Association (SABEA) alleged that the province ignored an industry/organized labour/ Department of Transport agreement, the so-called Heads of Agreement (HOA). This agreement deals with the transitional operator and labour rights from interim contracts to competitively tendered contracts (for more detail about the HOA see Walters, 2013). On April 11, 2022, the High Court found merit in these two cases and interdicted the Gauteng Department of Roads and Transport from taking any further action in the advancement of the tenders (Republic of South Africa, 2022).

The lack of competitive tenders or negotiated contracts over the years has prejudiced the industry as expired contracts are renewed on a short-term basis – initially month to month, then six monthly and the latest extension was for three years (Walters, 2020). This causes uncertainty as operators cannot plan over the medium to longer term and labour finds itself in a situation where job security is an unknown factor. In addition, with the introduction of the Public Transport Operations Grant (PTOG), contained in the Division of Revenue Act in 2009, all interim contracts were converted from a passenger-based subsidy system (i.e. subsidies based on tickets sold), to a kilometre based system where the revenue kilometres operated in these contracts, together with the kilometre-based tendered and negotiated contracts, were capped by the Department of Transport and National Treasury in order to obtain some form of predictability on subsidy expenses (DoT, 2010). The implication of this "capping" is that the commuter bus industry, from the introduction of the PTOG, cannot add additional routes or frequencies to their services in response to passenger demand due to the lack of funds. As the PTOG is a supplementary grant, National Treasury expects provinces to "top up" these funds from their provincial equitable shares as determined by DORA but only three provinces do this (Limpopo, Eastern Cape and Northwest) due to their historic involvement in the apartheid homeland system (SALGA (undated)). This severely prejudices potential urban and rural passengers that wish to make use of subsidized bus services.

Funding for these commuter services has also been problematic. The annual subsidy in the DORA is determined by the National Treasury and has little relation to the cost pressures experienced by the industry. In 2022, by way of an example, the annual subsidy de-escalates by 0.04% at a time when record fuel prices are experienced, labour cost escalated by 6% and the country's inflation rate is in the order of 6%. It is estimated that the shortfall in funding for the industry, since the introduction of the PTOG in 2009, is in the order of R3,6 billion, based on research that SABOAs has conducted and presented to the National Department of Transport (Govender,2022). This continuous underfunding has seriously prejudiced the industry with a consequent general ageing of the commuter bus fleet, declining levels of service due to reliability issues and increased bus maintenance due to the ageing fleet.

From the foregoing discussion it is therefore not surprising that the commuter bus industry has not been able to grow its market share in public transport, despite significant in-migration to the urban areas over the years. The minibus-taxi industry has been the main beneficiary as it has been able to grow its market share substantially over the years (Statistics South Africa, National Household Travel Surveys, 2003; 2013 and 2021). The following Fig. 3 depicts the passenger trips generated by the industry since 2008.

From Fig. 3 it is evident that road-based passenger trips were generally on the increase until about mid-2015 with a peak around 2017. From 2017, passenger trips declined with a steep decline observable in April 2020 with the introduction of hard lockdown in SA to mitigate the spread of COVID-19. Somewhat of a recovery is evident since then but the industry has not been able to match the pre-COVID-19 levels of about 250 million passenger trips per annum. The linear trend line depicts a downward trend (exacerbated by the impact of COVID-19). The information in the figure must be contextualized against the population increase in South Africa over the period 2008 (49.7 million)

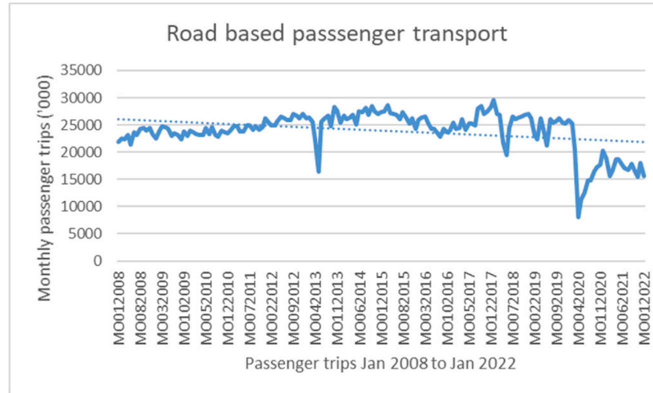

Fig. 3. Road based passenger transport trips (2008–2022).
Source: Statistics South Africa (Stats SA) Land Passenger Surveys (P 7162)

to 2022 (60.7 million) (Macrotrends, 2022) and urbanization increases from 2010 (62.2%) to 2020 (67.4%) (Statista, 2022).

Unlike commuter bus services that are managed at a provincial level, the design, operationalizing and management of BRT services take place at metropolitan or local government level. Another difference is that the contracting arrangements are negotiated 12-year gross cost-based contracts compared to the competitive tendering system for commuter bus services, funded via the PTOG that stretches over seven years. Cities are also dependent on National Government for capital funding support for BRTs that is included in the DORA under a Public Transport Network Grant (PTNG). Operating subsidies are the responsibility of the cities (Schalekamp & Klopp, 2018). Cities apply to the DoT for funding from the grant and must comply with the various conditions related to the grant stipulated in DORA. Some of the stipulations included alignment with the NTLA as well as Public Transport Strategy (2007) (The World Bank, 2021). One of the main aims of BRTs in South Africa is to include existing bus and taxi operators in newly established Vehicle Operating Companies (VOCs) that would manage the BRT. As the minibus taxi industry is the dominant mode of public transport in urban areas this means that affected minibus and bus operators must be included in these companies that eventually manage the BRT system. This complicates negotiations and leads to delays in establishing VOCs.

Currently, BRT systems in various stages of development are operating in Johannesburg (Rea Vaya), Pretoria (City of Tshwane) (Areyeng), Ekurhuleni (Harambee), Cape Town (MyCiTi), George (Go George), and Durban (GO! Durban) with a total route length of 88 km (ITDP, 2021). More services are planned in cities such as Rustenburg (Yarona Rustenburg) and others. It was originally foreseen in the 2007 Public Transport Strategy that streamlined trunk and feeder systems (BRTs) would be developed in 12 cities and six more heavily populated districts across the country with an envisaged completion date of 2020 (Schalekamp & Klopp, 2018).

Political support for BRTs has, however, been waning (ITDP, 2021) due to high costs (especially high upfront capital investments), low cost recovery and lower than envisaged patronage when compared to original estimates. The World Bank (2021) in studying BRTs in Sub-Sahara Africa (SSA) (including the BRT systems in Cape Town and George), list general issues such as inappropriate system specification resulting in high up-front capital costs, coupled with overestimated demand and lower than expected revenue which result in weak financial performance; the absence of dedicated and well-capacitated transport authorities; the absence of an enabling legal and regulatory framework and ineffective coordination with existing public transport operators; inappropriate risk allocation and benefits between public authorities and private operators in the concession contracts with little incentive for operators to improve service quality; unregulated competition from paratransit operators such as minibus operators that affect system revenue; high incidences of cash leakage and politically driven fare setting and adjustment regimes as issues plaguing BRTs in SSA. The BRTs in South Africa certainly suffer from these issues as they have not performed as was envisaged in the conceptualization and design phase of the services. Schalekamp and Klopp (2018):2) also mention that the BRT-focused reform has not gone as planned due to significant difficulties in absorbing existing operators and *"significant actual or projected operating deficits that were not foreseen at the programme's inception"*.

3.3. The commuter rail industry

Commuter rail in South Africa is managed by the Passenger Rail Agency of South Africa (PRASA) and does not include Gautrain as that is a Public- Private Partnership (PPP) concession managed by the Gautrain Management Agency. PRASA is a state-owned entity and reports to the DoT. It operates on a deficit subsidy system that is funded by the DoT. It owns 2280 km of rail track with 585 rail stations in the main metropolitan areas of Johannesburg, Pretoria (Tshwane), Durban, East London, Port Elizabeth (renamed to Gqeberha in 2021) and Cape Town (DoT, 2022b).

Commuter rail services are viewed by PRASA as the *"backbone of integrated urban and rural/regional public transport systems within South Africa"* (PRASA, 2012:50), a view confirmed by government in the Revised White Paper on National Transport Policy (DoT, 2021:50). Over time, commuter rail has, however, experienced a continued decline in passenger journeys, for example, in the mid-eighties suburban passenger journeys were at a high of 710 million trips but declined to about 410 million journeys in the mid-nineties. This was mainly because of the introduction of more accessible door-to-door services offered by the minibus taxi industry (Havenga et al., 2021). Aside the impact of the informal minibus taxi industry on the commuter rail industry, the industry's passenger journeys continued to decline after the mid-nineties mainly due to service quality and safety issues on trains, platforms, and journeys to stations (see the views of passengers in section 4 of this paper). Patronage was also affected by the quality of the service. Fig. 4 depicts the downward trend in passenger trips linked to the decline in the number of trains operated, reductions in the number of trains operating on time, and the number of scheduled trains. Fig. 5 depicts the downward trend in passenger trips from 2008 to 2022.

It is evident from Fig. 5 that a major decline in passenger journeys began around 2013/14 which accelerated towards the end of 2020 (also see Fig. 4) due to a dwindling service offering, vandalism, and theft. With the introduction of the level 5 lockdown in South Africa in March 2020 to mitigate the spread of COVID-19, commuter rail services were suspended for a three-week period with minimal services rendered during subsequent lockdown levels 4 and 3. At this time, the majority of PRASAs private security contracts that were deemed to be irregular, were cancelled and not replaced with new security services, with the result that vandalism increased exponentially (PRASA, 2021). Resultantly, hundreds of kilometres of overhead cables were stolen, many stations were vandalized and ripped up to access electrical cables, signalling equipment was vandalized and electrical distribution boxes were stripped of their copper wire. In Cape Town, informal shack settlements encroached over the main railway line. The situation caused the Minister of Transport, Mr Fakile Mbalula, to characterize PRASA as a *"broken business"* due to the systematic erosion of value and collapse of governance that the business experienced over several years (PRASA, 2019:7).

In addition to these mainly operational and safety issues, PRASA was also the focus of an investigation by the Public Protector of South Africa which issued a report entitled "*Derailed*" in 2015 that focused on maladministration relating to financial mismanagement, tender and appointment irregularities (Public Protector of South Africa, 2015). The Auditor General of South Africa also issued disclaimers on PRASA's financial statements for three consecutive years (Business Day Newspaper, 2022).

Despite the serious issues experienced at PRASA and the collapse of commuter rail services, the DoT has reconfirmed its commitment to re-establish commuter rail in the country. A new PRASA board was appointed at the end of 2020 (Parliamentary Monitoring Group. PMG, 2021) and at the end of the 2021 financial year PRASA had "*some level of service*" on 17 of its 46 corridors (PRASA Annual Report 2020/21:11:17). A year later, in January 2022, it is evident that services that are operational, are not preforming well (see Fig. 5).

A phased rehabilitation of the perway, overhead lines and stations has been announced by PRASA with 10 corridors in the Western Cape, KwaZulu Natal and Gauteng identified that historically carried the most passengers and generated the most revenue (PRASA, 2021). At present,

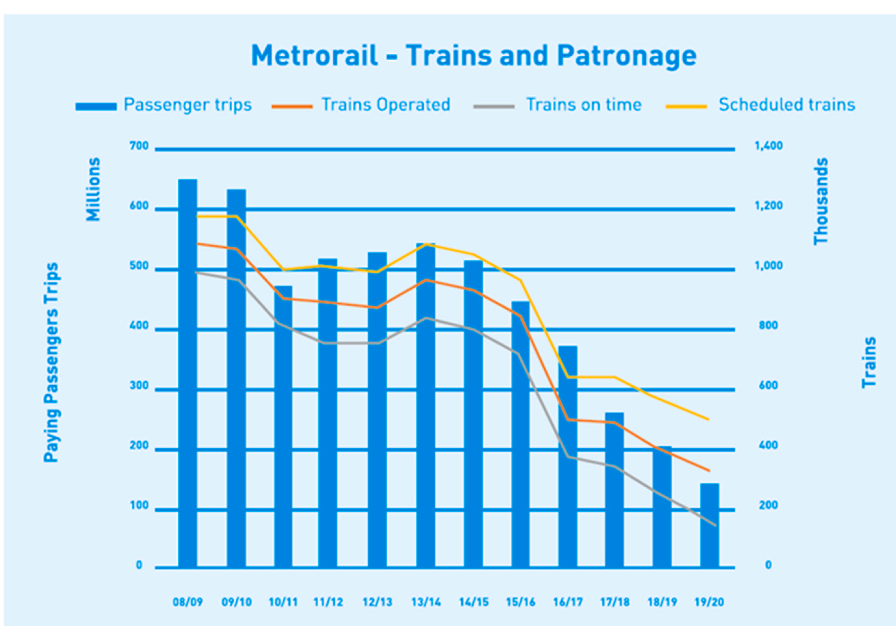

Fig. 4. Metrorail performance decline 2008–2020.
Source: 2019/20:14

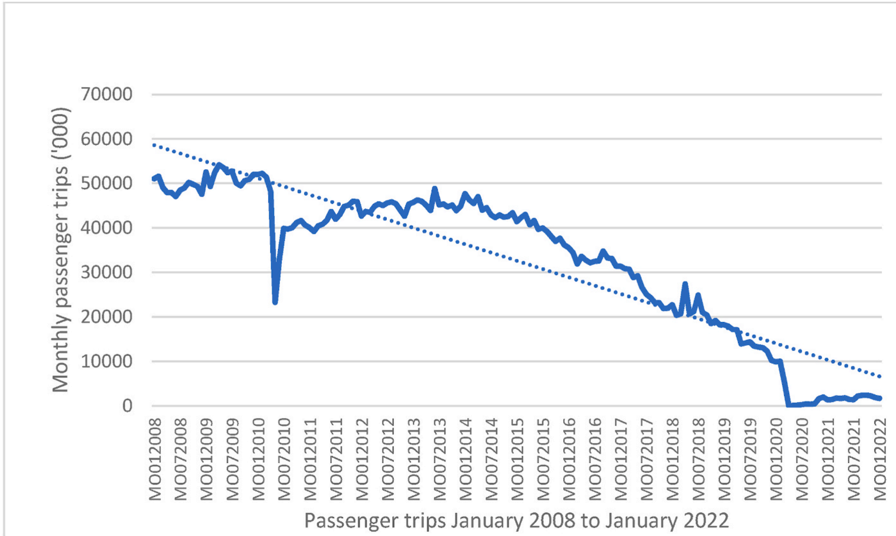

Fig. 5. Commuter rail passenger trips (2008–2022).
Source: Statistics South Africa (Stats SA, P 7162)

focus is on two main lines; the Mabopane line north of Pretoria (Tshwane) where a limited service is currently operating and the Central line in Cape Town. However, the latter line's full recommissioning is problematic due to the occupation of the line and the rail reserve by informal shack dwellers.

A phased rolling stock renewal programme has been in place for several years. PRASA appointed the Gibela Rail Transport Consortium (Gibela) to supply 3600 new rail coaches at a cost of R51 billion (US$ 3,5 billion at an exchange rate of R14.60/US$) over a ten-year period (2015–2025). This is subject to inflation and exchange rate fluctuations (PRASA, 2022).

4. User experiences with public transport in South Africa

Policy provisions and strategic initiatives in the provision of public transport should be monitored and evaluated to ensure that the goals set out are achieved namely provision of affordable, reliable, and efficient transport services to the public. The White Paper, like other countries globally, set out to reduce car use and increase public transport use. To this end the WP defined indicators for the measurement of transport service provision which were later articulated as key performance indicators (KPIs) and targets in the Draft National Land Transport Strategic Framework, 2002 to 2007. These indicators and targets provide the basis for the evaluation of the effectiveness of policies and strategic initiatives towards public transport provision. The KPIs and respective targets are namely.

- *"satisfaction of user needs;*
- *improved accessibility to transport services;*
- *affordable accessibility to work and services;*
- *affordable transport costs; and*
- *safe and secure transport*".

The National Land Transport Strategic Framework (NLTSF) set certain targets for these indicators as follows.

- average travel time to work should be less than about 1 h;
- a ratio of 80:20 between public transport and private car use; and
- affordable public transport with commuters spending less than about 10 per cent of disposable income on transport;
- in urban areas, access to public transport within 1 km (about a 15-min walk); and
- in rural areas access to a regular public transport service within a 2-km walk (about 30 min)".

It is therefore imperative to evaluate the success of public transport provision against the KPIs set out in the WP. Statistics South Africa has conducted three National Household Travel Surveys (NHTS) to date. Data from these surveys provides a basis to evaluate the effectiveness of public transport policies and strategies. However, it must be noted that the data provided in the three NHTS of 2003, 2013 and 2020 is not the same for all indicators and as a result some indicators cannot be compared for the three time periods. The following section discusses the progress to date on the five indicators identified by the NLTSF as well as user experiences on public transport.

4.1. Time taken to access public transport services

The time to access public transport is an important measure of the accessibility of public transport services (van Soest, Tight, & Rogers, F 2019). In 2021 the percentage of people walking less than 15 min to their first public transport mode declined to 11,5% compared to 14,7% in 2013 (Statistics South Africa, 2003). For commuting trips, the percentage of workers who waited more than 15 min for public transport decreased to 6,7% from 10,3% in 2013.

When the mode of transport is considered more than 75% of minibus taxi users and bus users walked for less than 15 min to the respective taxi rank or bus station in the time periods 2003, 2013 and 2020 although there was a fluctuation between 2013 and 2020 (see Table 2). The percentage of people walking for 16–30 min to access minibus taxis increased from 13,8% to 17,5% between 2003 and 2013 and decreased to 15,5% in 2020. Less than 5% of people nationally spent more than 30 min walking to a taxi rank. For buses there was an increase in the percentage of people walking up to 30 min to access bus stops or bus stations from 13,2% in 2003 to 17,9% in 2020. It is noteworthy that here was a decline in the percentage of people walking more than 60 min to access a bus stop/station from 7,7% in 2003 to 0,6% in 2013 and 2,9% in 2020. Train stations were the least accessible mode of transport for households with more people walking for longer to access train services over all time categories.

4.2. Cost of public transport

The cost of public transport was evaluated against total household

Table 2
Time taken to access public transport services.

Time taken to walk to the nearest taxi rank/route station				
	Time category (% of people nationally)			
	1–15min	16–30 min	31–60 min	>60 min
2003	82,4	13,8	3,3	0,5
2013	77,7	17,5	4	0,8
2020	79,8	15,5	4,1	0,6
Time taken to walk to the nearest bus stop/station				
	Time category (% of people nationally)			
	1–15min	16–30 min	31–60 min	>60 min
2003	75,5	13,2	3,5	7,8
2013	79,4	16,6	3,3	0,6
2020	75,5	17,9	3,7	2,9
Time taken to walk to the nearest train station				
	Time category (% of people nationally)			
	1–15 min	16–30 min	31–60 min	>60 min
2003	47,1	35,5	14,7	2,7
2013	43,6	40	14,2	2,1
2020	27,9	31,1	30,4	10,6

With regards to the travel time for commuting trips, 74,5% of trips were less than 1 h in 2020.
Source: Statistics South Africa, 2003, 2013, 2021.

monthly expenditure in 2020. Table 3 shows that the majority (49,9%) of the households surveyed in the NHTS spent R1 799 (equivalent to US $123 at an exchange rate of R 14.60/US$) or less in 2020. In addition, a significant number of households (34,4%) depend on government grants as the only source of household income (Stats SA, 2021). This indicates that there is a large proportion of low-income households in South Africa. In terms of household expenditure on public transport, as indicated in Table 3, a large percentage of people walk all the way. Consequently, 29,7% of households had no expenditure on public transport in 2020.49, 7% of households spent up to R500 on public transport. This implies that a significant number of household income is spent on public transport considering that almost 50% of households had a total monthly household expenditure of up to R1 799. Expenditure on public transport for commuting trips was reported to be high with 45,5% of households spending more than R500 per month. The proportion of households spending more than R500 on commuting trips is higher in urban areas (58,7%) compared to rural areas (40,6%). Minibus taxis were the most used mode of public transport (25,7%) nationally with an average monthly expenditure of R373. Minibus taxi ridership was higher in urban areas than rural areas. The highest proportion of bus ridership was in rural areas. The average monthly expenditure for buses was R287 while monthly expenditure for train users was R201 and was limited to urban areas for the latter.

4.3. Transport related problems encountered by SA households

Public transport should be easy to access, reliable, safe and affordable (Hine and Scott, 2000). Policy provisions and strategic initiatives in the provision of public transport in South Africa are not unique to an African context but are rather comparable to international standards and service provisions of developed countries. Fig. 6 shows the transport related problems encountered by SA households in the periods 2003, 2013 and 2020. The cost of transport is a main determinant of mode choice. Minibus taxi users were more dissatisfied with the fares compared to bus and train users. This can be attributed to the lack of subsidization in the minibus taxi industry resulting in higher fares for commuters. Overall, less people were dissatisfied with the public transport fares in 2020 compared to 2013.

Public transport users were most dissatisfied with train services. There were more than 20% increases in dissatisfaction with travel time; waiting time; frequency of service during off-peak periods and frequency of service during peak period associated with train services in 2020 compared 2013. Public transport users were most dissatisfied with the reliability, safety, security, comfort and distance between station and home of trains compared to minibus taxis and buses. In terms of safety from accidents, minibus taxis were perceived to be the least safe mode of public transport in 2013. However, in 2020 trains were perceived to be the least safe mode. This may be attributed to the vandalism and theft of rail equipment during COVID-19 lockdowns that have resulted in rail service provision being unreliable and unsafe. In terms of road worthiness of minibus taxis, a slight improved in perceptions was observed in 2020 and this may be attributed to the TRP.

In terms of security associated with using a particular mode; the trains were perceived to be increasingly less secure in 2020 compared to 2013 on all indicators of security. It must be noted that security associated with using minibus taxis improved in 2020 compared to 2013 with the most improvement observed in in-vehicle security. Marginal improvements were reported in 'security on the walk to/from the bus stop'; and 'security at the bus stop' although in-vehicle security on buses was perceived to be lower in 2020 compared to 2013. The behaviour of the taxi or bus drivers towards passengers was a concern for minibus taxi users although it was less or a concern in 2020 compared to 2013. Bus users were increasingly dissatisfied with the availability of information on the bus. The facilities at the taxi rank/bus stop/train station e.g., shelters, toilets are not satisfactory across the three modes with notable increases in dissatisfaction for bus users.

In summary, it is evident that public transport users are, in general, dissatisfied with public transport provision in South Africa. Despite government's policy intentions to provide safe, affordable, integrated and coordinated services, passengers do not experience this in their

Table 3
Monthly household expenditure, 2020

Monthly household expenditure 2000					
	R0-R7999	R800-R1799	R1800-R4999	R5000-R9999	R10000 or more
RSA	17,7	32,2	32	9,2	8,9

Monthly household expenditure on public transport %							
	Nothing	R1-R100	R101-R200	R201-R300	R301_R500	R501-R1000	R1001 or more
RSA	29,7	18	14,6	7,9	9,2	11,4	9,2

Monthly household expenditure for public transport trips to work, by province, 2020						
	R1-R100	R101-R200	R201-R300	R301-R500	R501-R1000	R1001 or more
RSA	7,8	9,1	8,5	20	20,3	25,2
Urban	5,9	7,9	8,1	19,5	30,6	28,1
Rural	14,5	13,4	9,6	21,9	24,9	15,7

Source: Statistics South Africa, 2021

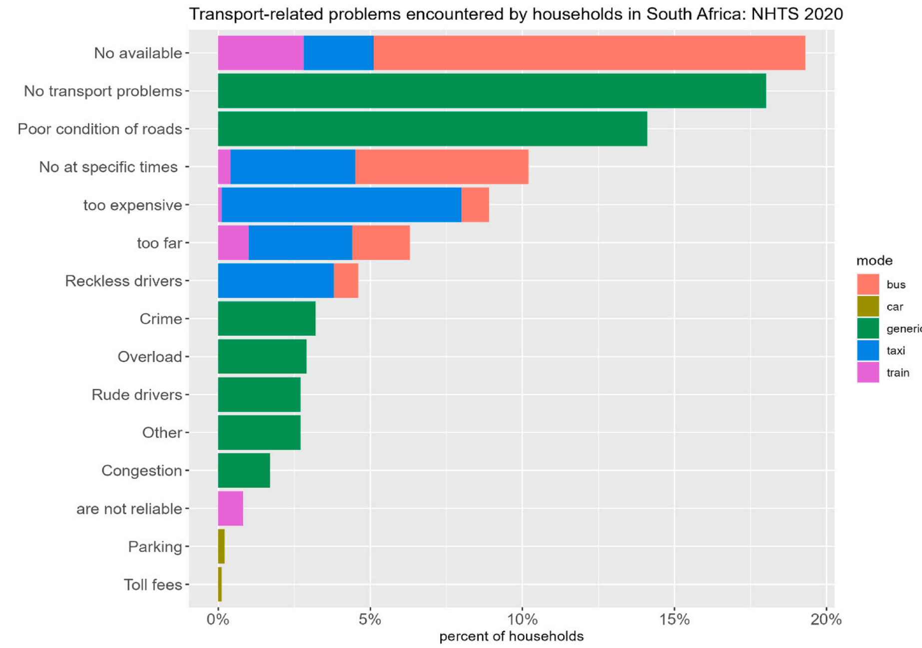

Fig. 6. Transport related problems encountered by SA households.
Source: Statistics South Africa, 2021

everyday use of the system.

5. Summary on the current performance of the public transport system

Formal public transport in South Africa is in serious trouble. This is acknowledged by the Minister of Transport in an address to the SABOA annual conference on June 9, 2022 where he stated that *"Unfortunately, public transport in South Africa was already in a dire situation when the pandemic was declared"* (DoT, 2022). Commuter rail services have been decimated through widespread vandalism and theft of overhead lines, station infrastructure, cable theft, and theft of signalling equipment and power systems. Its share of commuter traffic is at a historic low. Where it had a market share of 15% in 2003, its current market share is 3,2% and this is before the extensive vandalism that took place during the early stages of the COVID-19 pandemic. This is a situation never experienced in the country. Major commuter rail lines are non-functional and in need of major repair and rehabilitation. Government has prioritized the fixing of the rail system, but it will take an inordinate amount of money and time to get the system back to where it was in its heyday.

The commuter bus industry, as described in this paper, is equally on the back foot. It continues to lose market share to the minibus taxi industry and faces significant funding and policy uncertainty. The last time competitive tenders were awarded was in 2002 and the government has placed a cap on its activities by not allowing it to expand its services due to a lack of funding. All contracts are renewed on a short-term basis which does not auger well for new capital investments, new technology and demand-based quality services. Its market share of commuter trips has shrunk from 22% in 2003 to 16,6% in 2020 – the NTHTS survey also concluded before the onset of the COVID-19 pandemic.

In contrast, the minibus taxi industry has grown its market share of commuter trips significantly from 63% in 2003 to 80,2% in 2020 – a 17% increase over 17 years. It is the *"backbone"* public transport mode in South Africa and continues to make inroads into formal public transport systems with the country being dependent on an informal, lightly regulated industry for the generation of about 15 million trips per day (NHTS, 2020). The industry has the ear of the government and significant attempts are being made to further support the industry – especially by means of financial support via the Taxi Recapitalization Programme described earlier, as well as the development of a new public transport subsidy policy that will be user-based (thus including the millions of taxi passengers that are currently not directly subsidized) instead of the current operator-supported bus contacting system and the deficit subsidy system in place to support the commuter rail system.

If current increasing taxi industry market share trend continues, the country will soon become entirely dependent on the informal minibus taxi industry for the conveyance of its workforce. This is not ideal as the industry is difficult to control and manage from a governmental policy point of view and is characterized by significant infighting, instability, intimidation, lawlessness, a lack of vehicle safety protocols and adherence to road traffic legislation. The government has tried on numerous occasions to enforce acceptable labour standards (hours of work, compensation et.) but has been unsuccessful.

It is evident from the foregoing sections that the government has failed to provide South Africa with "*safe, reliable, effective, efficient and fully integrated transport operations and infrastructure …. at improving levels of service and cost in a fashion which* supports *government strategies for economic and social development whilst being environmentally friendly and economically sustainable"* (WP, 1996:3). Services are mostly disintegrated and uncoordinated with funding streams and transport planning dedicated to modes rather that integrated public transport services (see Walters, 2014).

User experiences with public transport are equally dismal. The respective NHTS surveys (2003, 2013 and 2020) have repeatedly emphasized user dissatisfaction with the quality of services, safety and security and the availability and affordability of services.

The country has, however, made some progress with BRT systems – although the value-for-money proposition in cities and urban areas with low densities has been raised. Nevertheless, it's government policy to continue with the introduction of these services which are also used as a "vehicle" for the formalization of the minibus taxi industry as it purposefully involves current operators in new BRT bus companies of which the minibus taxi industry is the main beneficiary given its dominant urban, short distance public transport market share characteristic. The government has also begun the recapitalization of the commuter rail system with new trainsets being introduced on some corridors. Progress has also been made with high-speed rail – the Gautrain services currently operating in the Gauteng province. A second phase of expansion is currently planned.

Despite the progress mentioned in the previous paragraph, most public transport users are not benefitting from these improvements as most commuters are dependent on ordinary commuter rail and ordinary commuter bus and minibus taxi services. At present commuter rail is virtually non-existent and commuter bus services are only serving about 16% of the commuters in the country. No real improvements in the minibus taxi industry have been affected over the years apart from the integration of some operators in the BRT services and the limited uptake of the taxi recapitalization programme. The industry continues to defy government efforts to be formalized, become more regulated and better organized. It does, however, on its own initiative, feed and distribute from major taxi hubs in the country that allows passengers to travel "seamlessly" on minibus taxis on urban, rural, and long-distance services. It also integrates (informally) with rail stations for urban and long-distance services. There is little or no government involvement in this type of organization apart from mainly responding to infrastructure needs at such nodes.

6. Policy conclusions

The paper presents policies that apparently are more expressions of wishful or opportunistic thinking than realistic assessment of necessary costs or government's true willingness to prioritize government funds for the designated purposes. There are few traces of ex-ante analysis and assessments of new policies, and little analysis of how the development of objectives or polices evolved and how an alternative way to go about this process could have yielded alternative, and possibly more successful, policies. The lack of willingness or ability of policy makers to bring stated objectives in balance with true willingness to provide necessary funds appears to be a central problem in the examined policy area. In a democracy, such decisions need ultimately to be founded on the willingness of voters to pay taxes for the tax funded services to be provided. Some clue of what is reasonable in this sense can be given by some cost-benefit analysis of the proposed services.

For the government to meaningfully influence and direct the development of the public transport industry in South Africa will require several significant steps.

1. The current public transport policies and strategies appear to be appropriate for the developmental state but implementation is lacking. An effort should be made to determine the necessary management skills across the three spheres of government, institutional resources, investments and funding required to successfully implement the necessary policies to achieve policy objectives. This requires serious introspection and hard decisions.
2. Government needs to own up to the fact that the public transport industry is failing South Africa and that it is not achieving its policy and strategy objectives. It is necessary that a high-level discussion process be established that will consist of all stakeholders to review policy performance against policy objectives and to seek answers and solutions to the poor performance of the industry and government. At present, initiatives are mostly reactive in nature and not seen from an integrated public transport systems point of view. The current review of the public transport subsidy policy, is a case in point. It attempts to address one area of public transport while the problems are much more fundamental and serious in nature. The proposed policy, if implemented, will result in an entirely new set of "unknowns" and potential unintended outcomes that will not necessarily address the main shortcomings of public transport in the country.
3. Public transport planning and funding has been highly fragmented (see Walters, 2014). This is recognized by government in all its strategy, policy, and legislative documents. Yet, little effective progress has been made to address the matter since the 1996 White Paper was published. As mentioned under section 3.2, the latest attempt of the Gauteng Province to put bus services out to tender failed as the High Court found that the services were not based on integrated transport plans-more than 26 years after integrated transport systems were envisaged by government in the 1996 White Paper and encapsulated in subsequent legislation. The introduction of transport authorities at the metro levels of government ought to address this matter provided that proper jurisdiction is given to such authorities to plan, manage and fund all public transport services (at present bus contracts reside at the provincial level of government, commuter rail with PRASA at a national level and taxi services managed by both provincial and local authorities). Some progress has been made but with little effective results evident.
4. Capacity to manage complex public transport systems must be developed where such capacity deficits currently exist. This includes the contracting of public transport services, operational oversight, marketing of services, integrated ticketing systems and integrated marketing.
5. The country is 80% reliant on an informal, hard to control, minibus taxi industry for the travelling needs of the public. These industries, all over the world, and not only in South Africa, tend to resist efforts to become more regulated and integrated into formal public transport planning and management efforts. They also tend to only offer services where it is financially beneficial and have little regard for the social needs of passengers. Government should be more forceful in its interactions with this industry to address the many issues underpinning this industry. Many current and historic policy and strategy documents emphasise the need to formalize this industry. This will require a shift to formal public transport for sections of the industry. Little progress, if any, is being made, apart from the limited success of involving the minibus taxi industry in BRT systems and the TRP.
6. The demise of the commuter rail system in South Africa is a direct result of a lapse in security management, corruption and poor management by PRASA. The recapitalization of rail with new rolling stock and the rehabilitation of vandalized rail lines will have no meaningful effect if these matters are not fundamentally addressed. Serious consideration ought to be given to the devolvement of the commuter rail function to capacitated transport authorities at the metro level.
7. The commuter bus industry, which is almost entirely privately owned, does not have policy and funding certainty. A government cannot expect of an industry to keep on investing in new buses, new technology and infrastructure if it is relegated to short term contracts, funding uncertainty and no new contracts for more than 20 years. In addition, instead of addressing these issues, new policies are being developed that focuses on an (untested) user side subsidy system with a myriad of unanswered questions and the support of a state-owned bus fleet to participate in the subsidy system. This does not bode well for the future of the industry.
8. It is recommended that government commissions an independent analysis of possible policies before starting new initiatives.
9. Future research should focus on policy analysis to compute optimal or ideal levels of public transport service provision against alternative policy objectives in South Africa. Such simulations could then be used as basis of the bargaining process with other stakeholders in the public transport reform process.

CRediT authorship contribution statement

Jackie Walters: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Noleen Pisa:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft,

Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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