Toward the Integration of Paratransit in Transportation Planning in African Cities

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ABSTRACT

This research examines the history of transportation planning in African cities and how paratransit has been taken into account in the production of planning documents. On the rise since the 1980s, paratransit today is the most common motorized transportation mode in many African cities. The dominant approach among policymakers has been to limit paratransit, in some cases even to ban it. The question this research explores is how distrust of paratransit, and underappreciation of its intrinsic qualities, have been reflected in urban transportation plans. Having selected two cities — Cape Town, South Africa and Nairobi, Kenya — we conducted an in-depth analysis of planning documents at national and local scales. South Africa has a long tradition of transportation planning, with documentation available at the national, provincial and municipal levels. In the 1990s, paratransit was a national level concern. It gradually became a municipal issue with the implementation of BRT. In Kenya, planning has a shorter history. Development agencies (e.g. JICA) have played a key role in recent planning processes and encourage the formalization of paratransit. However, planning documents contain no explicit references to 'matatus'. In both cities, the focus in the documents is still mainly on developing infrastructure rather than improving mobility. While the role of paratransit is increasingly recognized, this trend is still more apparent in regulation than in planning.

Keywords: Transportation planning, African cities, Paratransit, Metadata and content analysis

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INTRODUCTION

Cities in Sub-Saharan Africa are characterized by some of the fastest population growth in the world, urban sprawl, poverty, and income disparities. The outcome of these combined trends is a spatial mismatch between housing and jobs, as well as rapid changes in travel demand (*1*). As motorization rates are still low and road networks highly congested and dangerous for cyclists and pedestrians (*2*), paratransit services are often the only way for many city-dwellers to travel.

Paratransit services began to thrive in African cities in the 1980s and 1990s, after the post-independence structural adjustments pressed upon some countries led to the demise of many publicly-owned bus operators (*3-4*). For lack of a standardized taxonomy, the academic literature may refer to paratransit as 'intermediate public transport', 'semi-formal transport', 'small business-run transport' or more frequently as 'informal transport'. Paratransit services in African cities are certainly heterogeneous, ranging from licensed minibus services operated on a designated route by a registered company to illegal motorcycle-taxi services run by informal businesses. More recently, they have also seen the advent of shared mobility services provided by transportation network companies. In many places, they attract intense criticism, referencing reckless driving and overloaded vehicles, collusion with corrupt police, or even armed violence (*5*). Nevertheless, the value of paratransit services is also increasingly acknowledged, in the short term for their ability to cope efficiently with fast-growing demand in sprawling urban areas (*5*), in the medium term for their capacity to complement 'formal' transit services in handling peak-hour demand (*6*), and in the long term for their potential role in sustainable mobility transitions (*7*).

In the light of these paradoxes, public authorities have employed different strategies to rationalize and improve paratransit services, along a scale from 'acceptance' to 'prohibition', including 'recognition' and 'regulation' (*8*). How are such strategies arrived at? Are they part of a formal transportation planning process? If so, which levels of government are involved, and how is coordination organized, if at all? What role do 'external' actors (development agencies, consultants) play? How is civil society involved? How have paratransit services been accounted for in government strategies over recent decades?

The aim of this research is to study the history of transportation planning in African cities and to analyze how paratransit services have been taken into account by public authorities in their development of planning documents. As a first step in this research, we selected two cities: Cape Town, South Africa and Nairobi, Kenya. Both cities are experiencing rapid demographic growth and have the status of regional hubs with relative economic and political stability. We conduct an

in-depth analysis of planning documents at different scales and compare them with respect to planning processes, institutional organization, and the involvement of external actors and civil society.

This paper is organized as follows. The next section presents the methodology and the two case studies. The following section describes the material. The main results of the analysis are then presented for each case study, with respect first to the history of transportation planning in general, and second to the status of paratransit. This is followed by a discussion comparing the planning processes in the two cities. The paper concludes with remarks on policy orientations.

METHOD

Metadata and Content Analysis

There is a prescriptive dimension to planning documents. They translate policies into a set of actions tied to budget measures and dedicated timelines. We opted to analyze the metadata and content of planning documents relating to the two cities studied. Content analysis of urban transportation planning documents is not very common in the academic literature, though such documents play a major role in policymaking. Indeed, it can be argued that the content of planning documents is a reflection, at a given point in time, of how important to a city's development a particular issue or a particular sector is considered to be. This takes a specific turn in developing countries, where international agencies are major funders of urban transportation projects (*9*).

First, we collected and inventoried planning-related documents at different scales (national, regional, local) for each city. Then, we classified the documents according to their relevance to the subject, selecting only those with explicit reference to transportation planning issues. A multicriteria framework was established to examine the documents selected as relevant. For each document, we examined and reported on the following items in an overview table:

- the sector of intervention (transportation, urban planning, etc.),
- the geographical scope and scale (city, urban area, region...),
- the governance mechanism (transportation authority, decentralization),
- the role of external actors (consulting firms, development agencies),
- the data used in the diagnosis (population census, household travel survey, traffic counting),
- the planning timeframe (short, medium, or long term),
- the setting of objectives (for infrastructure construction, modal share, etc.), whether binding or not,
- the inclusion of procedures for updating/monitoring/evaluating the document.

Second, we conducted a content analysis dedicated to the question of paratransit, focusing specifically on the documents selected as relevant. The documents were screened for keywords such as 'paratransit', 'minibus', 'taxi', 'BRT', and their occurrences were counted. In the analysis of the content of the selected documents, several transportation-related themes were more closely

examined, such as: road infrastructure investment; the degree of paratransit formalization; the role of foot travel and the status of road safety issues; the links between freight and passenger transportation; the opportunities and challenges of digital technology (for passenger information, service regulation, and the supply of new services). Particular attention was paid to the conditions of access to the city. The aim was to assess whether these issues were addressed in the documents analyzed, what representations seemed to underpin government action in these areas, and what forms of action were envisaged.

Third, we discussed and compared our findings for each city. The discussion outlined similarities and differences in the production of transportation planning documents in the two cities. To this end, we built a four-part conceptual framework, as developed by Klopp (*10*) for her study of Nairobi. First, (1) we considered the involvement of external actors in the planning process. Then, (2) we considered the degree of integration in institutions and policymaking. Next, (3) we examined whether top-down or bottom-up approaches dominated the planning process. Finally, (4) we looked at the role played by civil society.

Case Studies

There are marked contrasts between Cape Town, South Africa and Nairobi, Kenya in terms of infrastructure development, mobility system, and transportation governance.

Cape Town is part of the Western Cape Province, in the South-Western part of South Africa. The city has proved very attractive in recent decades, attaining a population size of 4 million in 2016 (*11*). The city's current structure still reflects the legacy of Apartheid (1948-1994) and the associated policies of deliberate segregation. Car culture is dominant, with a 37% modal share (*12*). Buses, including the BRT scheme, account for 15% of the modal split. Paratransit services, in this case minibus taxis, hold a similar modal share. They are increasingly taking market share from the traditional transportation mode used by the poorest citizens, namely commuter rail (modal share of 11%). The minibus-taxi industry developed in Cape Town during Apartheid, mostly to carry poor people living in the townships to workplaces in the CBD. It began as an illegal service to compensate for inadequate commuter train services, before being deregulated in the 1980s. In the post-Apartheid era, the South African government attempted to regulate the industry. It promoted Bus Rapid Transit (BRT) as a viable instrument to formalize the industry and offered incentives to minibus-taxi owners to upgrade their fleets through the 'Taxi Recapitalization Programme' (*13*). Post-Apartheid decentralization policy assigned planning powers to municipalities. The City of Cape Town developed the first phase of the BRT, branded MyCiti, in 2007. The municipality concentrated on incorporating existing paratransit operators into the BRT system. It launched a second phase in 2013. This phase was more incremental and made provisions for capacity training programs for paratransit operators (*14*).

Nairobi is the capital of Kenya. It was created by the British as a commercial node on the Uganda-Mombasa railway line. Since Independence in 1963, the population has grown to 3.1 million in Nairobi City County. The racial segregation of Nairobi's early years has evolved into the current pattern of social segregation (*10*). Nairobi remains less motorized than Cape Town.

The modal share of the private car is 14%, and 5% for motorized two-wheelers, whereas non-motorized modes account for 40% of daily trips. For public transportation, Nairobi mainly relies on its midibus services, called 'matatus'. They account for 28% of daily trips, as compared with 12% for buses and less than 1% for the commuter train (*15*). The public bus service failed in the 1980s, under the impact of structural adjustment programs, reduced government budgets, and privatization. They left room for matatus to operate. The matatu industry highlights the weakness of the existing institutions in the transportation sector (*16*). Though institutional fragmentation dominates (*10*), in the last decade the Kenyan government has made efforts to improve the institutional framework. In 2008, the national government established the Ministry of Nairobi Metropolitan Development. In 2010, the new Constitution created the counties. The county boundaries correspond to those of the former districts, but the constitution granted the new local governments some autonomy with respect to planning (*17*). In 2016 a new highway classification system was established, which gives more power to the counties to manage local highways. And in 2017, the Kenyan President created the Nairobi Metropolitan Area Transport Authority, a joint transportation authority between the five counties in the Nairobi Metropolitan Region and central government.

MATERIAL

Planning Documents

A significant number of planning documents was collected, from national to local scale. We inventoried 92 documents (8 for Nairobi, 84 for Cape Town). Of these, 22 demonstrated a focus on transportation planning. These documents were screened through a multicriteria framework. The selected documents are listed in Table 1.

TABLE 1 A Collection of Relevant Planning Documents for Cape Town and Nairobi

Country	Scale	Author	Year	Name of the Document	Timeframe
South Africa	National	Department of Transport	1996	*White Paper on National Transport Policy*	NM
South Africa	National	Department of Transport	2006	*National Land Transport Strategic Framework 2006 - 2011*	2011
South Africa	National	Department of Transport	2007	*Public Transport Strategy*	2020
South Africa	National	Presidency	2009	*National Land Transport Act*	NM
South Africa	National	Economic Development Department	2010	*New Growth Path Framework*	2020
South Africa	National	National Planning Commission	2012	*National Development Plan 2030*	2030
South Africa	National	Department of Transport	2015	*Strategic Plan for National Department of Transport 2015 - 2020*	2020

South Africa	National	Department of Transport	2016	*National Transport Master Plan 2050*	2050
South Africa	National	Department of Transport	2017	*Revised White Paper on National Transport Policy*	NM
South Africa	National	Department of Transport	2018	*Green Transport Strategy for South Africa 2018 - 2050*	2050
South Africa	Provincial	Western Cape Government, Department of Economic Affairs, Agriculture and Tourism	2000	*5Year Service Delivery Plan of the Transport Branch*	2005
South Africa	Provincial	Western Cape Government, Department of Transport and Public Works	2002	*Provincial Vision for Public Transport and 5Y Strategic Delivery Programme*	2007
South Africa	Provincial	Western Cape Government, Department of Transport and Public Works	2011	*Provincial Land Transport Framework*	2015
South Africa	Municipal	City of Cape Town	2007	*5Year Integrated Development Plan*	2012
South Africa	Municipal	Transport for Cape Town	2013	*Comprehensive Integrated Transport Plan 2013 - 2018*	2018
South Africa	Municipal	Transport for Cape Town	2014	*Integrated Public Transport Network Plan 2032*	2032
South Africa	Municipal	City of Cape Town	2017	*5Year Integrated Development Plan 2017 — 2022*	2022
Kenya	National	Ministry of Planning and National Development	2003	*Economic Recovery Strategy for Wealth and Employment Creation*	2008
Kenya	National	National Economic and Social Council of Kenya	2007	*Kenya Vision 2030*	2025
Kenya	Metropolitan	Japan International Cooperation Agency for Ministry of Roads and Public Works, Ministry of Local Government	2006	*The Study on Master Plan for Urban Transport in the Nairobi Metropolitan Area*	2030
Kenya	Metropolitan	Ministry of Nairobi Metropolitan Development	2008	*Nairobi Metro 2030*	2030
Kenya	Municipal	Japan International Cooperation Agency for Nairobi City County	2014	*Integrated Urban Development Master Plan for the City of Nairobi*	2030

Note: N/D = no data.

South Africa offers a rich set of planning instruments and specific documents on transportation at national scale (10 documents), provincial scale (3 documents), and municipal scale (4 documents). Each level of government has a transportation-specific body responsible for producing those documents. Since 1996 and the *White Paper on National Transport Policy*, the Department of Transport of South Africa alone has produced seven documents, the last of which was the *Green Transport Strategy for South Africa 2018-2050*, released in 2018. The Western Cape Province's Department of Transport and Public Works produced two planning documents between 2000 and 2011. The City of Cape Town and its local transportation authority Transport for Cape Town together produced four between 2007 and 2017.

Planning documents are less numerous in Kenya than in South Africa. Kenya began issuing national and metropolitan level planning documents only a decade ago and all documents emanated from central government bodies. It was not until 2014 that Nairobi City County, with technical support from the Japan International Cooperation Agency, produced the *Integrated Urban Development Master Plan for the City of Nairobi*, showing its readiness to have its own planning document to organize the territory.

The intention of all such documents is to guide Nairobi and Cape Town in building their respective transportation strategies on different time horizons.

RESULTS

The results here are presented separately for each city. We begin with the history of transportation planning, and then shift the focus to the status of paratransit within the documents.

Transportation Planning in Cape Town

A Long History of Transportation Planning

As revealed by the analysis and illustrated in Figure 1, the national, provincial, and municipal governments have been the main generators of transportation planning documents. They were not active at the same time and on the same issues. The selected documents belong to three types: 'White Paper', 'Framework', and 'Plan'. A White Paper is a set of policy guidelines generally written by the national government. It presents proposals for future legislations. A Framework is a prescriptive document, established at national or provincial scale. Frameworks are not common. They have long and indeterminate timeframes. The final type of document is the 'Plan'. Based on White Papers and Frameworks, they provide guidelines over a 5 to 10-year timeframe.

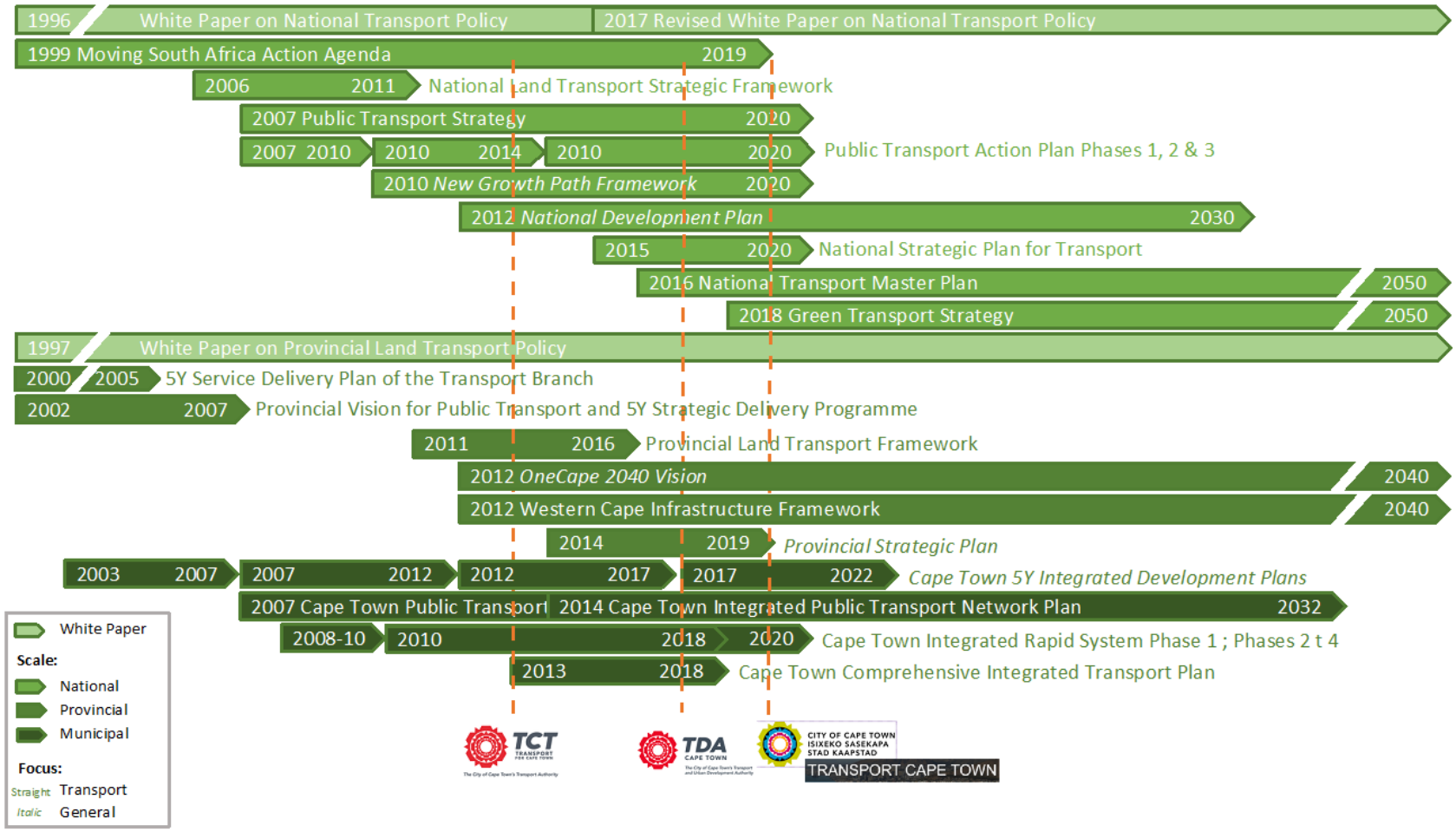

Figure 1 Timeline of planning documents in Cape Town

In a context of post-Apartheid government reform, in 1996 the Department of Transport published a *White Paper on National Transport Policy*, a document that was seen as the reference for all transportation planning documents in the country. It covered transportation infrastructure and land transportation for passengers and freight. It delivered a vision for the South African transportation system as one that would "*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*".

After its release, a ten-year break was observed before any new national scale transportation planning documents were issued. In 2006, the same Department of Transport released a *National Land Transport Strategic Framework 2006-2011*, which focused on promoting public over private transportation, and a *Public Transport Strategy* in 2007 intended to accelerate modal upgrading and the integration of rapid public transport networks by 2020. In 2009, the Presidency issued the *National Land Transport Act*, which contains strategies and requirements to be followed by lower-scale actors. In 2010, the Economic Development Department included a section on infrastructures in its *New Growth Path Framework*, advocating the need for workable urban transit solutions to be created through greater investment in public transportation and the resolution of existing public transportation policy issues, in order for the country to hit the target of 5 million new jobs by 2020. In 2012, the National Planning Commission issued the *National Development Plan 2030*, which also promoted economic growth and included infrastructure as one of the factors in meeting its expansion goals. The period 2006-2012 was a prosperous one for transportation planning at national scale, as authorities became aware of the importance of transportation and transportation-related infrastructure to society and its economic development.

Subsequently, the Department of Transport pursued the short and long-term organization of transportation in South Africa with the *Strategic Plan for National Department of Transport 2015-2020*, published in 2015, and the *National Transport Master Plan 2050*, which was released in 2016, immediately before the extensive revision of the 1996 White Paper in 2017, now known as the *Revised White Paper on National Transport Policy*. This latter document called for improvement in "*South Africa's competitiveness and that of its transport infrastructure and operations through greater effectiveness and efficiency to better meet the needs of the different customer groups*" but also for the objectives to be met "*in a manner that is economically and environmentally sustainable, and minimizes negative side effects*". Environmental awareness and sustainability were then new issues, and were subsequently reaffirmed as a government priority in 2018 with the Department of Transport's *Green Transport Strategy for South Africa 2018-2050.* This last document encourages the transportation sector to contribute its fair share to the national effort to limit climate change, through the promotion of behavioral changes among users and the sector's commitment to a low-carbon transition. It may herald the advent of a new era of environmentally conscious transportation planning.

The Western Cape Province entered the planning arena not long after the 1996 national *White Paper on National Transport Policy*. First, in 2000 the Department of Economic Affairs, Agriculture and Tourism released a *5-Year Service Delivery Plan of the Transport Branch*, the main goals of which were the construction of new infrastructure and the maintenance of existing infrastructure, with a view to creating a provincial network that would provide adequate travel conditions for freight and passengers. Second, in 2002 the Department of Transport and Public Works released the *Provincial Vision for Public Transport and 5-Year Strategic Delivery Programme*, which sought to promote a "*unified transport culture and ethos which is characterized by excellence and professional competence and which respects and is responsive to broader needs and requirements*". To achieve this goal, the provincial government relied on organizing — and building capacity for — the management of transport services at different scales of government in order to link national and local policies. It endeavored to ensure that "*appropriate capacity and capability is established in all transport authorities so that they become fully competent to fulfil assigned transport roles and functions*" and to guide and inform "*all transport authorities to ensure that the products of strategic planning initiatives meet declared provincial standards and requirements*". A decade later and still in line with this vision of their advisory role, the Department of Transport and Public Works produced a *Provincial Land Transport Framework* in 2011. The purpose of this document was to "*state provincial objectives and policies that give direction to transport on a provincial-wide scale; ensure national planning objectives and policies are implemented at the provincial scale; assist in coordinating and integrating transport in the province*". This emphasized the role of the Western Cape Province in coordinating operations and setting guidelines for administrations under its jurisdiction.

The post-Apartheid decentralization policy initiated in 1994 by the national government gave more power to the municipalities. The City of Cape Town released its first *5-Year Integrated Development Plan* in 2007, with a focus on improving transit networks, rail, and BRT, as well as cycling lanes and sidewalks. Following the first phase in the implementation of a BRT network, a transportation authority for the City of Cape Town was created in 2013. Named Transport for Cape Town, this new entity had jurisdiction over the City of Cape Town plus its "Functional Area", i.e. areas of other Municipalities with which the City had a transportation planning relationship. Transport for Cape Town released a second 5-year plan in 2013. This placed greater emphasis on the development of a BRT network as a new solution to improve public transit while limiting paratransit activity. The high priority assigned to BRT was restated in the 2014 *Integrated Public Transport Network Plan 2032*. After the municipal elections of 2016, the transportation authority was reabsorbed as a department of the City of Cape Town and its jurisdiction restricted to the City of Cape Town. The latest *5-Year Integrated Development Plan* released in 2017 places more emphasis on transit-oriented development and safety improvements.

Paratransit in Planning Documents

In the 1996 *White Paper on National Transport Policy*, the national government stated that minibus-taxi operators were to be supported to form collectives in the form of cooperatives, associations, or companies; provinces were to introduce operating permits for minibus-taxi routes or networks; and minibus-taxi operators, either on their own or in partnership with bus companies, were to be allowed to compete for contracts issued by transport authorities. Western Cape Province applied these guidelines in the 2000 *5-Year Service Delivery Plan of the Transport Branch,* by introducing checks on driver permits and vehicle condition. In 2007, the national *Public Transport Strategy* went a step further, pushing cities "*to transform the low-quality services of their semi-formal operators (like SA's minibus industry) into an integrated system that is planned and managed by the public sector while being operated by existing private operators*". In Cape Town, local authorities saw the planning of BRT services as an opportunity to replace paratransit services with a trunk-and-feeder network, in which all the operators would be formal bus companies.

Paratransit persisted, even when the BRT scheme became operative. In 2017, the *Updated National White Paper Transport* underlined issues in the licensing system, such as inadequate law enforcement or lack of compliance with licenses and permits. It called for "*renewed efforts (…) to involve small and previously disadvantaged operators in the formalized public transport system*". It was then acknowledged that BRT should take up the slack from ailing or absent rail services and include both minibus-taxis and scheduled bus operations. The City of Cape Town operated a shift in perspective in its 2017 *Integrated Development Plan*. It moved away from the strategy of using BRT to *"displace and replace"* (*18*) minibus-taxis towards the integration of paratransit services into the BRT project. Recently, at national scale, paratransit has been approached from a new environmental perspective. Alongside the 'Taxi Recapitalization Programme', the South African Department of Transport has pushed for the conversion of minibus-taxis to dual-fuel vehicles and the roll-out of retrofit filling stations for compressed natural gas.

Transportation Planning in Nairobi

A Recent History of Transportation Planning

In Kenya, transportation planning documents as such do not exist. At national as well as at local scale, transportation planning is incorporated into broader planning documents. As in South Africa, the documents employ general concepts, referring to 'transport' rather than 'mobility', with a focus on 'infrastructure' rather than 'transport services'. There are two main kinds of document: strategic 'Vision' documents and 'Master Plans'. Figure 2 presents the timeline for planning documents in Nairobi.

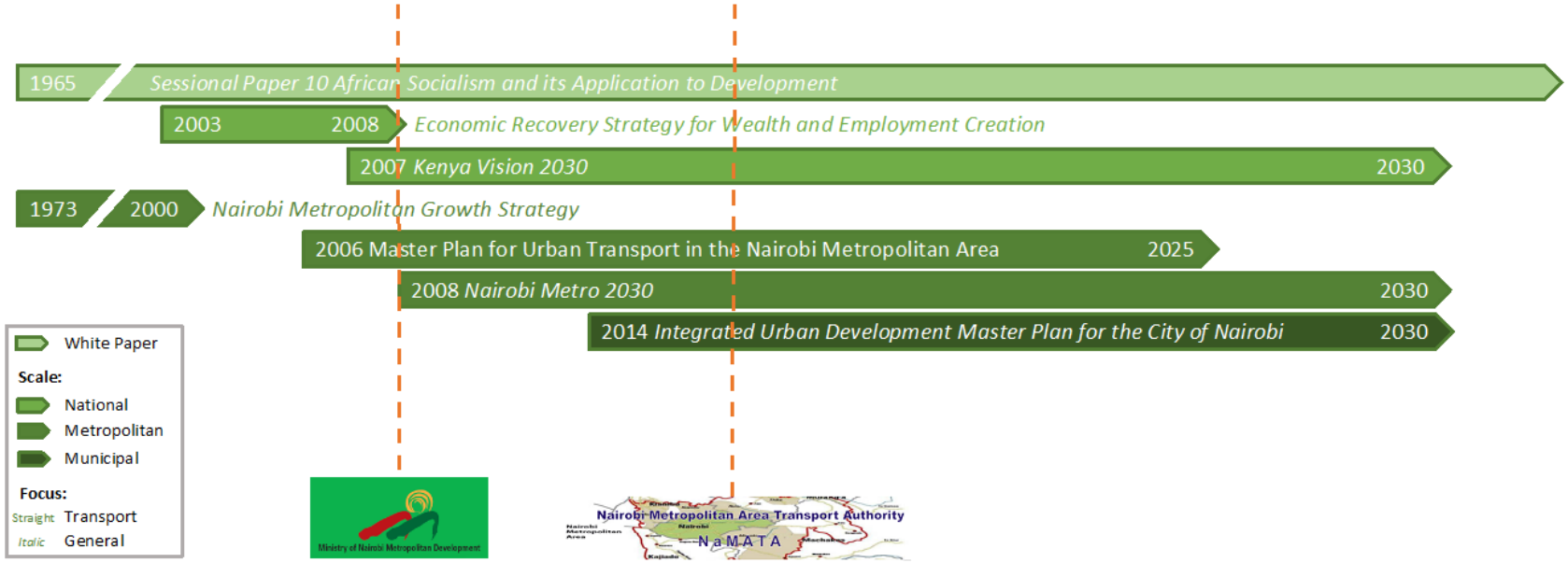

Figure 2 Timeline of planning documents in Nairobi

In 1965, shortly after Independence (1963), a first White Paper named *Sessional Paper 10 African Socialism and its Application to Development* addressed the matter of transportation as one of the means to the primary goal of "*eradicat[ing] poverty, disease and ignorance*". For almost 40 years, no national scale transportation planning document was produced. In 2003, the Kenyan Ministry of Planning and National Development published the *Economic Recovery Strategy for Wealth and Employment Creation*. This document reviewed several sectors of the economy, including transportation (mostly from the infrastructure standpoint). It pointed to some important objectives such as "*Provide an efficient road transport"*, "*Develop an efficient railway*". Paratransit and non-motorized transport were outside its scope.

Five years later, the National Economic and Social Council, a government body, released *Kenya Vision 2030.* This document was also dedicated to the economy, with the aim of "*increas[ing] annual GDP growth rates to an average of 10% over the vision horizon"*. Infrastructure was presented as one of the ten pillars of the country's economic and social development. The Council stated that "*by 2030, it [would] be impossible to refer to any region of our country as 'remote'"*, in other words it expressed the intention of the Kenyan government to achieve territorial continuity across the country through a highway network. A planning process was drafted: "*During the life of the Vision, strategies and action plans will be systematically reviewed and adjusted every 5 years in order to effectively respond to the changing global, regional and local environment*".

In 2006, the Kenyan Ministry of Roads and Public Works and the Kenyan Ministry of Local Government commissioned the Japanese International Cooperation Agency (JICA) to produce a *Study on Master Plan for Urban Transport in the Nairobi Metropolitan Area*. It was the first of its kind since the 1973 master plan (which was never implemented) (*17*). To underpin the Master Plan for 2025, the document presented an unprecedented diagnosis of the mobility system in the Nairobi Metropolitan Area, including information about buses/matatus as well as road and rail networks, and employing data from a traffic condition survey, an environmental condition survey, and a social condition survey to provide an overview of the situation at the time. The public authorities were able to use this diagnosis to rank transportation projects on a scale of urgency with a view to providing a higher level of metropolitan service and better metropolitan access by 2025.

Following its creation in 2008, the Ministry of Nairobi Metropolitan Development released a long-term metropolitan scale vision document named *Nairobi Metro 2030*. The broader objective of the national government was to "*secure Nairobi as a world-class city region*", with transportation a key factor in achieving this goal. Infrastructures were a significant component of the strategy and transit-oriented development was presented as a means of achieving the objectives. *Nairobi Metro 2030* played the same role at metropolitan level as *Kenya Vision 2030* played at national level of providing a long-term vision and associated objectives through which projects could gain legitimacy and therefore support.

In 2014, Nairobi City County commissioned technical support from JICA to establish *an Integrated Urban Development Master Plan for the City of Nairobi*. For the first time, planning emanated from local rather than central government, as it had until the 2010 Constitution, which gave more power to the counties (*17*). This was not the first time that Japanese cooperation had been sought in Nairobi's planning process. The document advocated the construction of a metro system, but also proposed options for working with the matatu and taxi industries to move the transportation system forward.

Paratransit in Planning Documents

Formalization of the economy is mentioned in the 2008 document *Nairobi Metro 2030:* "*In the respect of wholesale and retail trade, Vision 2030 aims to raise earnings by giving the large informal sector opportunities to transform itself into a part of the formal sector that is efficient, multi-tiered, diversified in product range and innovative*." Despite the importance attributed to transportation in the document, there is no mention of the matatu industry.

Both documents produced by JICA mention matatus. In 2006, JICA observed that "*no regulation is implemented to clearly distinguish the roles of Bus and Matatu — no existence of coordination between bus and Matatu for sharing and integration*." It suggested a rerouting of the bus and matatu itineraries to help improve the transportation system. In 2014, JICA acknowledged the essential role of matatus in providing commuter transportation but pointed to ways in which the industry could improve and contribute more to the performance of the transportation system: by improving service quality (information, accessibility, regularity), by recognizing the need for a more hierarchical network (trunk lines and feeder lines), and by reorganizing to act as a feeder service for future rapid transit services.

DISCUSSION

The discussion is divided into four parts, as presented in the methodology section: (1) the role of external actors, (2) the level of integration in policymaking, (3) the adoption of top-down vs. bottom-up approaches in the planning process, and (4) the role of civil society.

(1) Involvement of External Actors

External actors such as development agencies, consultants, or NGOs may be involved in the planning process, especially in Nairobi. JICA's intervention is one example. This raises questions about the possibility of external actors being biased by their own country's transportation planning processes or industrial strategies. Development agencies also influence local decisionmaking by the way they invest money. In Kenya, road investment still dominates. The keywords analysis confirms this observation, as 'road' and 'infrastructure' are present everywhere in the documents, relegating public transportation and non-motorized transportation strategies to an ancillary role.

In South Africa, transportation planning documents are largely homegrown, but external influences are nevertheless observable. One source of influence is the North American model, as many senior transportation planners in the country are US educated (*19*). Another source of

influence is the transfer of technologies from different urban mobility contexts, as illustrated by the spread of the BRT model imported from South America.

(2) Fragmentation vs. Integration in Institutions and Policymaking

Fragmentation in policymaking is noticeable in Kenya. The 2014 *Integrated National Transport Strategy* included proposals for the creation of a transportation authority. The Nairobi Metropolitan Area Transport Authority was created in 2017 but has so far largely remained an empty shell. Project implementation is also fragmented, with many different funders and companies working on separate segments of the network. The analysis of the successive planning documents confirms the impression of fragmentation, as the topic of transportation is addressed by different ministries, without any real coordination in terms of scopes or scales.

The South African case seems less fragmented. South African transportation policymaking relies on institutions of reference for each scale, which clarifies the overall process. The South African Department of Transport, the Western Cape Province's Department of Transport and Public Works, and the City of Cape Town are the main actors. We noticed institutional instability at the local level. When it was created in 2013, Transport for Cape Town had jurisdiction over an area larger than the municipality. This functional dimension was abandoned some years later and its jurisdiction is now limited to the municipal boundaries.

(3) Top-down vs. Bottom-up Approaches to the Planning Process

The planning process in Nairobi is characterized by a top-down approach. Nevertheless, some devolution of power took place with the 2010 Constitution, and in 2014 Nairobi City Council released the *Integrated Urban Development Master Plan for the City of Nairobi.* The top-down approach also dominates in South Africa. However, decentralization here started much earlier. The 1994 post-Apartheid Constitution gave power to municipalities to contract with transportation operators and to regulate the sector.

The beginning of a bottom-up approach can be identified with the second phase of implementation of the BRT in Cape Town. Before this, central government's strategy was to tackle the minibus-taxi industry as a single homogeneous entity to be incorporated into BRT schemes (*13*). However, this approach failed, as the powerful local minibus- taxi associations were opposed to the reform. The second phase of BRT included capacity training programs for minibus taxi operators (*14*).

(4) Civil Society Involvement

In Kenya, civil society is largely absent from planning processes (*10*). Most decision-making is confined to the elite, excluding ordinary people. In South Africa, a new dynamic seems to be emerging. The revised 2017 *White Paper* mentioned "*consultation with communities*" in the planning process.

CONCLUSION

The aim of this research was to study the history of transportation planning in African cities and to analyze how paratransit services have been taken into account by public authorities in the production of planning documents. Two African cities, Cape Town, South Africa and Nairobi, Kenya were selected for this analysis.

Our findings are based on an in-depth analysis of national and local scale planning documents. In both case studies, planning documents maintain a broad-brush stance on the issues of transportation and mobility. They refer to 'transport' rather than 'mobility', with a focus on 'infrastructure' rather than 'transport services'.

Transportation planning has a long history in South Africa. It was decentralized after Apartheid. National, provincial, and municipal levels produce planning documents at regular intervals. In the 1990s, paratransit was a national level issue. It gradually became a municipal concern with the implementation of BRT. In Kenya, planning is a much more recent phenomenon, and has been fostered by the increasing involvement of international development agencies and consultants. Institutional fragmentation and top-down approaches characterize the planning process in Nairobi. A first step towards devolution (i.e. decentralization) occurred with the creation of counties in 2010 and the release of a first Master Plan in 2014. The role of paratransit has increasingly been acknowledged. However, this is still more apparent in regulatory than in planning measures. Civil society is almost entirely absent from the planning process.

The findings presented in this paper need to be consolidated through interviews with local stakeholders (*7*). Moreover, this study is part of an ongoing research program on the transformation and governance of paratransit systems in African cities. Further analyses based on other cities would be needed to develop a better understanding of transportation planning processes on the continent and to analyze to what extent paratransit has become a part of those processes.

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AUTHOR CONTRIBUTIONS

The authors confirm contribution to the paper as follows: study conception and design: G. Lesteven and V. Boutueil; data collection: V. Boutueil and L. Nemett; analysis and interpretation of results: all authors; draft manuscript preparation: all authors. All authors reviewed the results and approved the final version of the manuscript.

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