

Institutional transformations for sustainable urban mobilities: A case study of Kisumu city, Kisumu County, Kenya

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Introduction

Literature on transitions to sustainable mobility suggests that there has been increased interest, among urban mobility policymakers, to integrate sustainability principles and concepts into their perspective of mobility governance, this is evident in the provision of facilities for sustainable modes of mobility- walking and cycling. However, this transition has been stagnant across the continent, leaving only a handful of African countries committed to reconfiguring city designs to accommodate safe walking and cycling for people.

Drawing on institutional literature, this study aims to contribute to the acceleration of the shift towards sustainable mobilities, by examining the nature of and changes in norms, shared beliefs, and rules that guide the behaviour of mobility policymakers in Kisumu city, Kisumu County, in Kenya, which oversaw the introduction of sustainable urban mobility initiatives, notably the Kisumu Sustainable Mobility Plan (KSMP), informed by transport planning and environmental legislation and policies. Kisumu city represents an ideal case for drawing lessons given that its resources and institutional constraints in pursuit of sustainable mobility are comparable compared to European contexts. This section provides an introduction of the study, by first discussing the background and context, followed by the research identification and justification, research aims, objectives and questions, the significance and finally its limitations.

Background of the study

As mentioned earlier, Literature on transitions to sustainable mobility seems to suggest that recently there has been a shift, among mobility policymakers, towards integrating sustainable principles into their perspective of mobility governance (Mitullah et.al 2017). There is widespread consensus on the unsustainability of the increased levels of motorised transportation which is associated with negative environmental (greenhouse gas emissions), health and social costs (Road Traffic Incidences) (Costa et al. 2005, Banister 2008, Holden et.al 2019, Jordová & Bruhová-Foltýnová 2021, Petterson et.al 2021) and a need to shift to sustainable mobility. By *mobility*, we refer essentially to the attribute of being mobile (Holden et al. 2019) or simply the displacement of goods and people in a specific context (Costa et al. 2005) and at given times, *mobility* is used interchangeably with *transport*. This shift is signalled by the adoption of non-motorised transport (essentially walking and cycling) strategies into transport planning. An NMT strategy "presents a vision for an improved walking and cycling environment and defines time-bound goals for achieving specific improvements in infrastructure, street space management, and institutional capacity" (ITDP n.d).

Literature also suggests that this shift "must be preceded by changes in practices and cognitive frameworks among the [policymakers] influencing the development of the transport system" (Petterson et.al 2021: 2), or more simply 'behaviour change' (see Morgan 2014: 1) or attitude change (Costa et al. 2005) among mobility policymakers is to take place before the transitions to sustainable mobility. These cognitive frameworks and practices include norms, shared beliefs, and rules that guide the behaviour of these actors within the field of mobility that is referred to, in transition literature, as '*sociotechnical regimes*'. These regimes are conceived as *institutions* i.e. "systems of established and prevalent social rules that structure social interactions" (Hodgson 2008) in Institutional literature.

Data shows that several African countries are also committed to reconfiguring city designs to accommodate safe walking and cycling for people, this signals an emergence of a new perspective of mobility governance in policymakers or rather simply put, it suggests a change in the institutions that guide policymakers' view the provision of the societal function of mobility. However, data also

shows that the adoption of NMT strategies (infrastructural and cultural interventions) in transport planning has been stagnant across the continent, which poses several mobility problems associated with unsustainable mobility (e.g. Road Traffic Incidences). A solution to these challenges can be sourced from more progressive countries across the continent given that their resources and institutional constraints in pursuit of NMT are comparable compared to European contexts.

Problem identification and Justification

Despite there being widespread consensus on the unsustainability of increased levels of motorized transportation (e.g car use), the adoption of NMT strategies (infrastructural and cultural interventions) in transport planning (or mobility governance) has been stagnant across the continent, leaving only a handful of countries committed to reconfiguring city designs to accommodate safe walking and cycling for people.

According to a study conducted by Benton et al. (2021) " Nineteen out of 54 African countries have developed walking (usually referred to as NMT or Non-Motorised Transport) policies and plans in recent years, whether as singular documents or part of broader transport plans". It is vital to accelerate the shift towards sustainable transport alternatives. A way to do this is by learning from more progressive countries across the continent given that their resources and institutional constraints in pursuit of NMT are comparable compared to European contexts.

There is a natural tendency among policymakers to look outwards "to see how other states have responded to similar pressures, to share, ideas, to draw lessons and to bring evidence to bear within domestic policy-making processes" (Bennet 1999: 220 In Wood 2015: 1065). Instead of looking towards European contexts, these countries can draw a lesson from cases across the continent. An instance of this case is Kisumu city in Kisumu County, Kenya. To ensure that it provided equitable mobility, the city of Kisumu launched *The Kisumu Sustainable Mobility Plan* with the technical support of the Institute for Transport and Development Policy (ITDP) and UN-habitat and the Ford Foundation (ITDP 2021a, Galuszka et al 2021:8).

This 10-year strategy seeks to offer "safe, accessible, sustainable and equitable alternatives" (ITDP 2021a). In 2019, the city administration, under the World Bank-funded infrastructural investment program called *The Kisumu Triangle Project*, reconstructed 1.5 kilometres of walkways along Oginga Odinga Street, Ang'awa Avenue, and Jomo Kenyatta Highway (ITDP 2021) and recently during the covid-19 pandemic, there was a construction of temporary bike lanes (CPC 2021: 12). This suggests an emergence of a new perspective of mobility governance in policymakers or rather simply put, it suggests a change in the way policymakers view the provision of the societal function of mobility. Therefore, Kisumu city presents an ideal case in which lessons on the transition towards sustainable mobility.

Objectives of the study

The primary objective of this study is to examine the nature of and changes in norms, shared beliefs, and rules, that guide the behaviour of mobility policymakers in Kisumu, Kenya. :

1. To examine how and why has there been a change in institutions guiding the behaviour of policymakers in Kisumu, Kenya.
2. To identify when this institutional change occurred
3. To identify factors that facilitated this change.
4. To identify who are the stakeholders (governmental and non-governmental) that contributed to the observed policy changes?

Research questions

1. How and why has there been a change in the formal rules, norms, expectations, and beliefs guiding the behaviour of mobility policymakers in Kisumu, Kenya.
2. When did this change occur?
3. Which factors (political, economic, macro-global, regional) account for this change?
4. Who are the stakeholders (governmental and non-governmental) that contributed to the observed policy changes?

Significance of the study

Literature on mobility in Kisumu seems to suggest that many of the studies conducted focus mostly on how government instigated activities (e.g policies) influence Kisumu residents' perceptions about transport modes (e.g Alando et al. 2014, Alando & Scheiner 2016). In other words, there is a huge focus on examining changes in perceptions about walking and cycling among Kisumu residents but not among policymakers. Drawing on institutional literature, I shift the focus to the examination of conditions that led to a change in policymakers' perception about (sustainable) transport modes, thereby contributing to the body of knowledge on mobility in Kisumu.

Limitation of the study

A limitation of this study would be that it would be hard to examine the changes in the attitude of mobility policymakers towards sustainable modes of transport without conducting any interviews. The lack of access to these individuals (through interviews and focus groups) limits what could be an important aspect of how NMT policy changes and how these changes interact with or affect Kisumu residents' use of transportation alternatives. Another limitation of this study is that its results cannot be generalized, making it difficult to replicate.

The study is structured as follows: It first considers existing literature on transitions sustainable mobility, transport, and institutional change. This is followed by the methodology section, where the adoption of a qualitative, case study approach (of process tracing) will be justified, the discussion of research design and its limitations. It concludes with a section on the summary of the findings, their interpretation and discussion.

Literature review

This section concerns itself with relevant literature on the transition towards sustainable urban mobility, transport, and institutional change. It defines the concept of urban mobility and non-motorised transportation.

Concept of Mobility

Mobility, like many concepts in transport literature, has multiple definitions. Holden et al. (2019: 2) view the concept of mobility as comprising of "revealed mobility (actual, physical displacement) and potential mobility (attribute of being *mobile*)". For Costa et.al (2005: 325) "[m]obility is an attribute of individuals and economic agents when performing a required displacement", this definition seems to connote potential mobility, whilst a more simplistic definition of mobility provided by Todman (2003) of mobility as a movement of people and goods connotes revealed mobility. However, in an urban context, the concept of mobility seems to move beyond the idea of

displacement. Diego Sanchez of the CAF (2013) views “[urban mobility] [as] a set of actions that involve the need to define policies around aspects associated with infrastructure, aspects associated with traffic management, aspects associated with road safety and in most cases, aspects associated with investments” and “as a system that satisfies needs”. Mobility, in this instance, comprises of aspects that are commonly associated with transport planning, which refers to the “planning required in the operation, provision and management of facilities and services for the modes of transport to achieve safer, faster, comfortable, convenient, economical and environmental-friendly movement of people and goods” (The Economic Times n.a).

Sustainable mobility

'Sustainable mobility, a concept associated with sustainable development (Holden et al. 2020) also does not have on single operational definition, but what seems to be agreed upon is that it must address the three imperatives of sustainable development: satisfying human needs, ensuring, and respecting environmental limits (Holden et al. 2020: 2). The concept of sustainable mobility was first presented in the 1992 EC Green Paper on the impact of transport on the environment (Holden et al. 2020: 1). According to Holden et al. (2020), the paper recognized the great contributions that transport has made to the world but highlighted its negative impacts: environmental (e.g reliance on non-renewable resources leading to higher carbon dioxide emissions) and social costs (e.g road traffic incidences). It concluded that the then-current state of the transport system was unsustainable. After the paper, sustainable mobility earned greater attention from many international institutions and development banks (e.g World Bank and the United Nations). In addition, many research projects on sustainable mobility began around this period (Holden et al. 2020: 2).

Literature on transport and sustainable development seems to suggest that the terms "sustainable transport" (including sustainable transport systems) and “sustainable mobility” are used synonymously, as sustainable mobility tends to be used in Europe whilst sustainable transport is used in North America (Holden et.al 2019: 2). This proves useful in understanding the nature of the transition towards sustainable urban mobilities or sustainable transport systems. literature on the transition to sustainable urban mobilities speaks of a paradigm shift from conventional planning to new transport planning or new mobility paradigm (costa et al. 2005, Banister 2008, Jordová & Bruhová-Foltýnová 2021, Petterson et.al 2021).

Although arguments differ on what differentiates these paradigms, some of the factors highlighted were, the prioritization of non-motorised transport (walking and cycling) over motorised transport, reduction of long-distance travel and increased accessibility. This suggests that conventional planning is somewhat associated with an 'unstainable transport system' that is a contributor to the many negative social and environmental impacts that: the dependence on non-renewable resources (e.g. oil), social costs (e.g. Road Traffic Incidences) and high carbon dioxide emissions (Holden et.al 2020: 1-2).

Literature on transport planning in SSA suggests that conventional transport planning is the dominant paradigm form of transport planning given that only " Nineteen out of 54 African countries have developed walking (usually referred to as NMT or Non-Motorised Transport) policies and plans in recent years, whether as singular documents or part of broader transport plans”(Benton et al. 2021).

Conventional Transport planning (unsustainable mobility)

Porter (2007) highlights that much of the academic research on transport planning in SSA has been rather concerned about narrow technical engineering and road (construction and/or maintenance) issues. Klopp (2012) also points to the tendency of theorization about transportation to be overly and narrowly shaped by primarily engineers and economists. Klopp's (2012) study in the city of Nairobi, Kenya points to the dependence on inadequate and unreliable transportation, the lack of modal choices, and the historically entrenched inequalities in access to urban space and opportunities. These mobility challenges are a result of a concentration of infrastructural investment on automobile and transit modes, rapid urbanisation and the "continuous shift towards unsustainable transport modes" (Costa et al. 2005: 325). These challenges also result in forms of social exclusion.

These challenges also face most developed countries (see Holden 2019, Perriera et al. 2017) and major SSA cities. For example, Cooke et al. (2019) argue that "the public institutions within Kisumu's mobility regime are fixated on road investments..." and that there seems to be no sector from the government investing in public transportation. The majority of these road investments were probably channelled towards highways and expressways, this is evident in a study conducted by Kost et al. (2021: 9) which found that "out of the city's existing street network, [It] only had 6.1 Km of streets with footpaths on both sides within the city boundary". Alando & Scheiner (2016) argue that cycling was even banned in some sections of the city.

Kisumu also faces challenges that are associated with an unsustainable transportation system, namely environmental (e.g. reliance on non-renewable resources leading to higher carbon dioxide emissions) and social costs (e.g. road traffic incidences). Kisumu city's high levels of pollution have resulted in it being placed in the 'high pollution' category according to WHO guidelines, where daily exposure could lead to health effects (CFC 2021). Another challenge is that of Road traffic Incidences (RTIs). According to WHO (2018), Kenya had an estimated 13,463 fatalities in 2016 with 24% of these incidences coming from 2- and 3-wheeled vehicles. A study conducted by Poehler (2019) which sought to examine road safety measures and road traffic fatalities amongst motorbike drivers in Kisumu, found that out of the 152 motorbike drivers involved in the study, 57% have been involved in an accident with 22% sustaining road traffic injuries. According to Elizabeth Ojina (2021), in November 2018, some 511 motorcyclists were killed on various roads. This highlights that the current state of the transport system is unsustainable.

Part of the solution for these mobility problems, for Porter (2007: 2) could be that "[t]ransport planning also require[d] a detailed understanding of the economic, social and political environments in which transport takes place and interventions are made". This suggests a need for a new mobility paradigm that considered the socio-economic and political context in which a particular intervention is taking place. In the context of Kisumu city, this paradigm had to prioritize the achievement of sustainable urban mobility (walking and cycling), and recent development in Kisumu city suggest that there is a transition to a new mobility paradigm.

New transport Planning paradigm (Moving Towards Sustainable Urban Mobility)

In the context of Kisumu city, a new transport planning paradigm considers the prioritization of non-motorized transport (walking and cycling) as a solution to their mobility problems (Road traffic incidences and air pollution).

Non-motorized Transport

Vanderschuren (2012) refers to NMT or 'Active Transport' and 'Human powered' like walking, cycling, and variants, such as wheelchairs and handcart use. Kisumu city has a long-standing culture

of walking and an established cycling culture (see Aldried and Jungnickel 2014). (They define "'culture' as a way of life, everyday behaviour that often remains invisible because it is what people 'just do'" (2014: 79)). Walking as a form of transport is often the only form for the very poor in Africa (and Kisumu), where there is a large number of 'captive walkers', meaning people that walk because they cannot afford an alternative (UN-habitat 2013: 7). In Kisumu, walking is the dominant mode of transportation, constituting 53% of pedestrian trips (CGoK 2020). In a study examining the role played by *Boda Boda*, bicycle taxis that provide transport services for people and goods, in Kisumu and Nakuru, Kenya, Mutiso and Beltrons (2011: 430) "found that the bicycle taxis serve an identifiable niche market, in the form of short service trips largely for the purposes of accessing work activities (directly, or as a feeder within a multi-mode trip), and off-road trips in high density unplanned settlements where higher capacity vehicles cannot pass". This is particularly due to their ability to effectively navigate through the congested networks of the cities in question and if absent, service gaps could emerge.

In Kisumu, cycling is more of a form of entrepreneurial endeavour and the bicycle has taken a new meaning becoming a form of an entrepreneurship tool (Casas 2020). However, Cycling is not only relegated to the transport sector. Through one of *Cycling Out Of Poverty's* (COOP) bike projects Bike4Care, COOP, a charity organization together with health institutions provide bicycles and bicycle ambulances to healthcare volunteers. Through the bicycle, these volunteers can reach many patients and cover longer distances. Despite the cycling and walking culture that had been established in Kisumu, there was a lack of infrastructural interventions by mobility policymakers until recently, which suggested a transition towards a new transport planning paradigm of sustainable urban mobility.

Transition literature suggests that attitude change or behaviour change (see Morgan 2014) made "effective through the implementation of sustainability principles and concepts aiming at an improvement of the quality of life of urban citizens" (Costa et al. 2005: 325) is a key component for the transition to sustainable transport (Morgan 2014: 1). In transition literature, the norms, shared beliefs, and rules that guide the behaviour of these policymakers within the field of mobility are termed '*socio-technical regime*, however in institutional theory, there are considered *institutions*, and to understand the nature of and changes of the socio-technical regime or institutions guide the behaviour of mobility policymakers In Kisumu, I draw from institutional change literature.

Institutions and Institutional change

Institutions

An emergence of a new perspective among mobility policymakers in Kisumu city suggest a change in the institutions guiding their way of thinking about mobility. The concept of institutions, like mobility, has multiple definitions. Institutional literature suggests that there are actor-orientated and structure-oriented definitions of institutions. For Voss (2015: 190-191) institutions refer to "rules, constraints, or norms or human interaction "and they "describe stable patterns of interaction (regularities of behaviour) among a set of agents an the social and the social mechanisms generating this income". A classic definition of institutions is that they are rules of the game (North 1990: 3). Lawrence and Suddaby (2006:216) refer to institutions as " products of specific actions taken to reproduce, alter and destroy them".

Whilst definitions vary, a number of them rest on the following elements (Scott 2015: 60): regulative (i.e. enforced by law), normative (i.e. enforced by shared understandings of appropriateness) and culture-cognitive(i.e. taken-for-grantedness) and an assumption that

institutions connote stability and persistent (Scott 2015: 60). Literature on transport policy change seems to be in support of this view as policy change is characterized as difficult or slow over a long period owing to several factors like the slow changes in policymakers attitude or behaviour (Marsden & Docherty 2013:48, Jordová & Bruhová-Foltýnová 2021:3). However, some disagree with this view of institutions as stable, rather institutions require to be maintained (e.g Lawrence and Suddaby 2006) by purposive action. There are various explanations for how institutions change. Most scholars point to exogenous and endogenous shocks (e.g. Scott 2015, Mahoney & Thelen 2009), institutional isomorphism (Di Maggio & Powell 1983) and Institutional work (Lawrence and Suddaby 2006)

Institutional change

Institutional change refers to "the displacement of one set of institutional arrangements by another or the significant modification of prevailing arrangements, either substantively...or symbolically" (Suddaby & Greenwood 2009: 176-177). Like institutions, there are actor-orientated (bottom-up) and structure-oriented (top-bottom) approaches to Institutional change. for instance, there are Institutionalists that view "policies of nation-states as a reaction to world polity rather than to national-level factors such as economic development or political conflict" (Schneiberg & Clemens 2006:195) whilst some look at how actions of individuals and organisations shape institutions.

Several explanations can be of significance in understanding the transition to sustainable mobility, these include the effects of exogenous and endogenous developments (Scott 2025: 58) Exogenous development can be seen as those events outside the field of mobility (e.g., financial crises and wars) that affect change on institutions by destabilising them. Transport literature speaks of how disruptive events like fuel shortages, major storms and flooding events and Transport policy interventions as be conceptualised as opportunities for transport policy change (Marsden & Docherty 2013). Another example is the effect of the 1973 energy crisis characterised by a shortage of fuel, which in turn influenced the Netherlands to begin a long-term shift away from a car-based society (Mason 2019).

Endogenous developments are those events occurring within the field. An instance of these events is that of conflicts and contradictions between institutional elements. A term that could be useful to explain these conflicts is *Institutional logic*, which can be defined as the pattern of values, assumptions, rules and practices by which individuals are guided (Thornton 2004: 69). In a given field, institutional logics can compete or contradict each other, as mentioned earlier, in transport planning literature, there seems to be a conventional paradigm (associated with unsustainable mobility) and a new transport that prioritizes sustainability principles and values. I suggest that this create an environment with two competing logics (*conventional* and *sustainability logic*). Individuals of each logic, in turn, may engage in purposive work aimed at creating and maintaining their logic and possibly disrupting the other logic (Lawrence and Suddaby, 2006). Hypothetically, In Kisumu city, the *conventional logic* is possibly exhibited by the fixation on road investment (Cooke et al. 2019) and the *sustainability logic* could be responsible for recent developments.

The last explanation for institutional change is *institutional isomorphism* (Di Maggio & Powell 1983). Originally a term used to explain similarities in an organisation, Di Maggio & Powell(1983) contend that state bureaucracies tend to have similar forms and practice, and argued that this is a result of three isomorphic processes (coercive, mimetic, and normative). Coercive isomorphism entails the extension of informal or formal pressure on a government (or a collective) to adopt a set of practices (Di Maggio & Powell 1983: 150). In the context of mobility or transport policy, a change in institutions can be a response to government mandates. Mimetic isomorphism entails a form of

rational mimicking, where the government (or a collective) might imitate or adopt the practices of other governments if they seem to represent good policy. An instance of this is the replication of Bogota's Transmilenio Bus Rapid Transit (BRT) by South Africa to form *Rea Vaya services* (Wood 2015). The last mechanism of isomorphism is normative which entails a spread of practices through normative networks.

Methodology

This section provides a critical summary of the qualitative methodology and proceeds to justify adopting a case study approach (of process tracing) as a strategy of inquiry in understanding the nature of and changes in norms, shared beliefs, and rules, that guide the behaviour of mobility policymakers in Kisumu, Kenya. It outlines the role of the researcher, provides a description of the study area, and discuss processes of data collection and analysis.

Research Design and Approach

Qualitative research is, as described by Creswell (2009) "a means of exploring and understanding the meaning individuals or groups ascribe to a social or human problem". It usually involves 'what, how, and why questions that can be answered using collected qualitative (descriptive) data rather than quantitative (numerical) data (CRQ 2015). The methodology requires that a human process be best understood "through the eyes of the participants rather than the researcher" (Corbetta 2003: 40)

Qualitative research yields detailed information of human processes or social phenomena and at a relatively low- cost as it requires a small sample. However, a limitation of this method can also be found in its very strengths, because it requires a small sample to yield in-depth knowledge of social phenomena it is unlikely to be a representation of an entire target group. It also would require a lot of time. And because it is subjective it makes it difficult to generalize its findings. Nevertheless, qualitative research is appropriate for in-depth understanding.

There are various ways of conducting qualitative research, one strategy involves case studies, which according to Creswell (2009) "are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time". For this study, I shall employ the case study approach and process-tracing to complement the former as I seek to explore in-depth the casual processes associated with the transition to sustainable transport policymaking in Kisumu. In its basic form, Process tracing "... focuses on the unfolding of events or situations *overtime*" (collier 2011: 824) . ". It involves asking How does 'x' produce a series of conditions that come together in some way (or do not) to produce 'Y'" .

To justify this choice, I shall discuss some of the objectives of my research questions. For Creswell (2009), one's choice of approach can be influenced by (a) the research questions, (b) personal (technical) experience, and (c) the audience(s) for whom the report is written. My research questions (and objectives) have somewhat influenced my choice of the case study approach (of process tracing).

Objectives of the study:

5. To examine how and why has there been a change in institutions guiding the behaviour of policymakers in Kisumu, Kenya.
6. To identify when this institutional change occurred

7. To identify factors that facilitated this change.
8. To identify who are the stakeholders (governmental and non-governmental) that contributed to the observed policy changes?

Research Question 1 requires that I look in-depth at institutions that facilitate this change in the behaviour of urban mobility policymakers. The second question which can also be considered as a subset of question 1, is concerned about when this behaviour changes unfolded, this event is bounded by time. The third question is considerate of contextual conditions, a consideration that Baxter and Jack (2008) hold as important when using a case study approach as a strategy of inquiry because these conditions are relevant to the phenomenon under study.

By contextual factors here I refer to socio-political and/or environmental activities or scenarios that directly or indirectly influenced the changes addressed in the first research question. From this, I argue that the case-study approach (of process tracing) is the most appropriate for my study.

Processes of Data collection and Analysis.

Role of the Researcher

In this study, I reviewed relevant legislation, laws, policies and plans of the city. The main sources were found in electronic databases and on specific government department websites (or social media accounts). I attempted to interpret them to derive meaning from official documents with consideration of institutional literature (and process tracing).

Study area

Kisumu City is a port city and the third-largest city in Kenya (behind Nairobi and Mombasa), located on the shores of Lake Victoria, In Kisumu county, with a population of 567,963 (GoK, 2019) and a county population of 1.1 million inhabitants (Galuszka et al. 2021: 6). Historically, Kisumu was a terminal of the railway from Mombasa to Uganda in 1901. It serves as the communication and trading confluence for the great lakes region (Tanzania, Uganda, Rwanda and Burundi) (Oyango and Agong, 2018). Kisumu's dominant form of transportation is walking. "53% of daily trips in Kisumu are pedestrian trips. After walking, significant modes include matatus (13%), motorcycle boda-bodas (13%). Other modes include private motorcycles (6%), car (6%), bicycle (3%), tuk-tuk (3%), and bicycle boda (1%)" (ITDP 2020)

Sampling:

In choosing who was the target group of the study, I drew from Pettersson et al.'s (2021:2) study which sought to examine how structures of reasoning (mental- modes) of Swedish planners influenced their decisions and how it might hinder or promote the adoption of a sustainable transportation system. It used the term 'policy shapers' "which refers to wider groups of actors involved in shaping transport policy". I adopted this wider group into my study to include international (e.g. World Bank and UN-Habitat) and local actors (e.g. NGOs (Cycling out Of Poverty, ITDP), policymakers, city planners, engineers, city manager, county manager) who are involved in influencing policy outcomes through various activities.

Data collection:

Creswell (2009) recommends five forms of data collection in qualitative research: document reviews, assessments of archival records, interviews, direct observations, and physical artifacts (or available photographic images). For this study, I used almost all of them excluding interviews and direct observation. In collecting the data, I undertook an extensive review of documents related to urban mobility governance in Kisumu city. I conduct desktop research that involved the collecting and analysis of both primary and secondary data.

I sought to trace, through a series of documents, the changes and development leading up to the formulation of the *Kisumu Sustainable Mobility Plan* (KSMP) (2016-2020), a 10-year strategy launched by the city administration (in 2021) with the technical support of the Institute for Transportation and Development Policy (ITDP), UN-Habitat and the Ford Foundation. The sustainable mobility plan, which informs many of the ongoing (e.g. Kisumu triangle Project) and proposed initiatives in Kisumu city, was formulated through a transparent and participatory process (of Workshops, meetings and focus groups) that often engaged as many stakeholders (governmental and non-governmental) as could be reached. The Key stakeholders included the Kisumu County Governor, the City manager, transport sector actors, private consultants (ITDP 2020).

Primary and Secondary Data collection

For this study, the data was collected from both primary and secondary sources. The secondary sources included existing literature on transport planning. Primary sources mainly included the use of twitter as a research tool (Ahmed 2015) which was corroborated by more traditional sources. The data procedure of this study had two phases. It looked at developments before (2016) during the formulation of the KSMP (2016-2020). Phase I of the data collection included the random data search for documents produced before 2016. The key terms searched 'sustainable mobility'; 'sustainable development' and 'NMT' on google scholar and other electronic databases. Some of the documents collected included several national and local strategic documents: national development plans, research studies on NMT, budget plans and county plans. Phase I also include a comprehensive search of transport literature on mobility In Kisumu city and Kenya.

Phase II of the data collection prioritised data produced during the formulation of the KSMP (2016-2020). The focus of Phase II was on the 7 Stakeholder meetings (2016-2020) which were conducted by the ITDP during the formulation of the KSMP. The forms of Data collected were minutes of the meetings, presentations, newspaper articles, organisational reports, photographs. Most of the data collected were sourced directly from the ITDP and were sent via email from Eng. Njeri Mburu (country Manager of the ITDP) and Peninah Ndegwa, Transport Planning Association in ITDP in regional offices in Kenya.

Phase II also involved the collection of primary data through social media, particularly twitter as official county websites were either sluggish or did not have data that can be traced backwards to a number of years . The use of twitter as a research tool (Ahmed 2015) has a number of advantages: easy accessibility, news travels quicker on the platform than traditional media outlets. The data procedure began with the random search for the term 'Kisumu Sustainable Mobility Plan'. The results generated could be captured through screengrabs if there were relevant to the study.

The results of these searches were that there was a number of individuals and organisations which frequently posted mentioned 'Kisumu Sustainable Mobility plan' for a sustained period of time . The documents from Phase II, corroborated with other sources of data (county plans and various public

records) from Phase I to provide a means of tracing these changes and development (convergence of information).

Data Analysis

This section of the study is concerned with document analysis, " a systematic procedure for reviewing or evaluating documents" (Bowen 2009: 27). This study used documentary material to track institutional change and development (towards sustainable urban mobility) among mobility policymakers in Kisumu city. It consisted of both content and thematic analysis. Content analysis involves organising information into categories that related to research questions (Bowen 2009). On the other hand, thematic analysis involves recognising patterns within the documents and the creation of categories of analysis from emerging themes. The data collected was compiled into two folders label 'Phase I (1992-2016) and 'Phase II (2016-2020'.

A limitation of this methodological approach would be that it would be hard to examine the changes in the attitude of policy-shapers towards sustainable modes of transport without conducting any interviews. The lack of access to these individuals (through interviews and focus groups) limits what could be an important aspect of how NMT policy changes and how these changes interact with or affect Kisumu residents' use of transportation alternatives.

Empirical findings

This section provides a summary of finds yielded by the qualitative study that examined the nature of and changes in institutions guiding the behaviour of mobility policymakers in Kisumu city. It argues that the emergence of a new perspective on mobility in Kisumu, Kisumu County, Kenya is a result of a combination of factors (political, economic, regional, and macro-global). It singles out a combination of these factors: global and national incentives, constitutional outcomes and enterprising individuals (and organisations).

Global and National Incentives:

Literature on mobility in Kisumu suggests that government instigated activities (e.g policies) in the national level have had a great influence on Kisumu residents' perceptions about transport modes (e.g. Alando et al. 2014, Alando & Scheiner 2016, Okoyo 2019). Which also suggest that Transport policy interventions in the national level had a direct effect on the city. To understand this occurrence , let us look at policy changes at the National level, aiming to see when sustainability principles and concepts (e.g. Walking and cycling) started becoming a priority.

Policy change at the National level

Kenya's transitions towards sustainable development and Sustainable mobility can be traced between the period of 1992-1994. In 1992, Kenya endorsed and adopted Agenda 21, an action plan of the United nations concerned with sustainable development offering solutions pertaining environmental degradation and development amongst other things (GoK 2012). This development coincided with the emergence of concept of 'sustainable mobility' first mentioned in 1992 European Commission (EC) which linked sustainable development and transportation. Over the years Agenda 21 would followed by a ratification (by the Kenyan Government) of several international conventions, treaties and agreements that appropriated the concept of 'sustainable mobility'.

Evidence of this can be found in many of Kenya's national and local strategic documents that are/ were aligned with some if not all of the global targets of the Millennium Development Goals (MDG) currently the Sustainable Development Goals (SDGs). Some of these global targets of the SDGs explicitly mention reducing Road Traffic Incidences (RTIs) and achieving sustainable mobility: Goal 3.6 calls for halving global deaths related to traffic accidents by 2030 and 11.2 calls access to safe, affordable, accessible and sustainable transport (UN 2015: 8)

It was around the same period of *Agenda 21* and the emergence of the concept of 'sustainable mobility' that sustainable alternatives (walking and cycling) begin receiving support in several national and local policies and development plans . The prioritization of sustainable mobility by the national Government commenced when it was first mentioned in the 1994-1996 National Development Plan, which recognized NMT "as a sixth and the youngest mode of transport and development in both urban and rural areas" (Ndungu 2016: 8, Kusuku 2002). However, it is also interesting to point out that Silvester Okumu Kusuku (2002) also argued that there were provisions for pedestrian footpaths, bicycle and motorcycle parking bays in Nairobi and Mombasa (the first and second-largest cities in Kenya respectively) in the 1960s, suggesting that Kenya's commitment to sustainable development traces back to the 1960s.

Around the same period, The African Union and the World bank initiated research studies on NMT (1995-1999) under the Sub-Saharan African Transport Policy Programme (SSATP) . The SSATP implemented NMT pilot projects in Nairobi and Eldoret (Kenya) and Dar as Saleem and Morogoro (Tanzania) with the aim of " facilitat[ing] the establishment and reinforcement of the municipal capacity of SSA cities to design and implement affordable urban mobility policies, in particular, non-motorized transport policies, targeted at the urban poor" (...).These studies, according to the ITDP (2020b) led further to the prioritization of sustainable principles and concepts (e.g NMT) into many of the government's policies and plans, for example, The Kenya Urban Transport Infrastructure Project (KUTP) of 1996, the 1997-2001/ 2002-2008 National Development Plan, (Kenya 1997, 2002), the Interim poverty reduction strategy paper (2000) and *Kenya Vision 2030* in which under its Second Medium-term Plan calls for 1, 700 km of NMT facilities (Gok 2013: 2). These initiatives had a direct influence on mobility in Kisumu city.

For instance, Sule Stephen (2020) , head of City planning in Kisumu city commented in one the meetings for the formulation of KSMP, that in 1995 , UN-Habitat initiated the first sustainable mobility Plan , however it did not succeed due to a lack of stakeholder engagement. Another example is that of the Poverty Reduction Strategy paper, 2001- 2004 (GoK 2000) that led the Government of Kenya to include, in their 2001/2002 financial year budget, a zero rate bicycle import duty to allow for the wider population to access NMT to improve urban and rural mobility among the poor (Ndungu 2016), this in turn might have contributed to an increase in the modal share of NMT (walking and cycling) in Kisumu which was 84% in 2004 (Alando et al. 2014). However, the period of 2004-2008 was marked by the re-introduction of bicycle taxes (along with other transport sector reforms e.g. removal of taxes on motorcycles) that led to the reduced modal share of 71% (2009) to 67% (2014).

This affected the major urban centres of Nairobi, Mombasa, and Kisumu (Alando et al. 2014, Okoyo 2019: 2). However this is not to say that the re-introduction of taxes was what led to the decline of the modal share of NMT in these urban centres, there are other factors to consider like the high demand for second-hand cars and motorcycles (Okoyo 2019) and the changes of the public image of the bicycle and walking overtime (e.g. Daley & Rissel 2011).

Another Government initiative that had an important impact on mobility in Kisumu city was *Kenya Vision 2030*, an ongoing development programme (2008- 2030) aiming to transform Kenya into a " newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in clean and secure environment" (GoK 2008). Its implementation process takes a form of five year terms , with its Second Medium Term Plan (2013-2017) calling for 1700 Km of NMT facilities (GoK 2013: 2). Within this strategic programme, Kisumu City is assigned a specific role in Kenya's effort of accelerating economic growth through the improvement of transport infrastructure . This means that Kisumu city benefits from significant public investments which can be seen as incentives towards sustainable mobility. This highlights how government instigated activities (policy change and government funding) which can be conceptualized as national incentives in the national level, might have influenced a change in policymakers' perceptions of mobility in Kisumu city.

Global Incentives

Kisumu city has been able to attract, over the years, several international organisations (development banks and multilateral agencies) that provide incentives towards sustainable development. These incentives could come in forms of lending (e.g. conditional grants) and non-lending (advisory and analytic products) that in turn affect the policy priorities of the city. The city council once acknowledged that it " lack[ed] an investment plan, pertaining attracting and guiding investments to the city" (Steyn 2012: , KCC 2004) .

In response to this it developed the *Kisumu City Development strategy* (2004- 2009) in collaboration with UN-Habitat, aiming to make Kisumu city " [a] leading transportation, communication and commercial hub in the great lakes region offering great tourism and agro-investment opportunities" (Steyn 2012 .) . The strategy outlines, amongst other plans, the attracting of investments, combating increased poverty, rapid urbanization, environmental degradation, and the implementation of sustainable urban mobility in collaboration with the University of Nairobi, with emphasis on non-motorized transport - walking and cycling (steyn 2012: 173).

Over the years, with its distinction as the first UN millennium city (UN- Habitat 2006) it was been able to attract several organisations. The World Bank and the Agence Francaise de Development (AFD) are prime examples of organisations that have provided financial initiatives that are linked to the 'good governance agenda' and the promotion of decentralization and democratization (Smit 2021: 63). In 2009, the AFD initiated the implementation and design of Kisumu's Integrated Strategic Urban Development Plan (ISUD-Plan), with a budget of 40 Million Euros, to provide framework for the city's growth and development and developing strategies for capital investments in the city (AFD 2013). The ISUD-Plan (CGoK 2014) provides a framework for KSMP.

Another Programme worth mentioning is the Kenya Urban Support Programme (KUSP) funded by the World Bank, Kisumu city was able to use facilitate the development of the Triangle project (Otenio 2018, Mwaura 2019, ITDP 2020) . According to Maureen Kinyaunji of *The Star* (2019), the KUSP was financial backed by funding of Sh32 billion, given to the Government of Kenya as a loan, then the state is to give to eligible counties and municipalities as conditional grants for a period of six years. To obtain this grant it had to meet 11 minimum conditions and 10 performances, including investing in non-motorised transport facilities (World Bank, 2017).



Figure 1



Figure 2



Figure 3

Constitutional outcomes

Another development from the National level that might have had an influenced the change in perspectives of mobility policymakers are the outcomes of Kenya's constitutional reform in 2010. (GoK 2010). This reform resulted in the establishment of a devolved system of governance and the formulation of county governance, essentially creating a decentralised two-tier government (National Government and 47 County governments) from the centralised government (national government and 8 administrative provinces) . This reform represented a paradigm shift in development planning and governance (CGok 2018 : 50).

An implication of this was that several functions which were originally under the national government (planning, development, and maintenance of county roads, street lighting, traffic and parking) were devolved to the newly formed county this is mandated by the fourth schedule, Part II of the constitution, whilst function under the national government include the construction and operation of national roads and formulation of standards for road construction (Gok 2010) Under the same schedule, the national government is barred from intruding wilfully with county

government roles and functions. In this context, cities and counties are mandated several functions through s legislature (e.g the Urban Areas Act, 2011 and the County Government Act of 2012). And within cities and counties with are assigned pivot roles in the national development programme, include *Vision 2030*, there are manged by independent boards led by county authorities.

The possible effects of these radical changes on the developments in Kisumu city could be characterised as such: Prior to the devolution, Kisumu city served as the immediate capital city of Nyanza province, one of Kenya's eight administrative provinces. however it seems to have suffered from political neglect (and marginalization) by the National government to it being a political stronghold for the opposition. Kisumu city has been (almost since independence (1963)) of a stronghold of the Orange Democratic Movement (ODM) party, whose members hold most of the positions in Kisumu from county governor, member of parliament and county assembly (Smit 2018: 62). This was coupled by the fact that Kisumu city was a context of political motivated violence, most cited was the violence of 2007 General election (Smit 2018).

Following the constitutional reform, Kisumu city became part of Kisumu County. And as per stipulated in the Constitution were now responsible for several functions that would possibly have been neglected by the National government. And per the county government act it prepared the following: First County Integrated Development Plan 2013-2017 (aligned with MTP II of Vision 2030 and the MDGs) and the Second County Integrated Development Plan 2018-2022 (aligned with MTP III of Vision 2030 and the SDGs) which incorporated a 300 MN KSH (approximately 2.8MN USD) investment by Kisumu City in bike lanes (CGoK 2018: 111) . It was during this period that the county government initiated its *Vision* (see page 13 on *CDS*) and began with formulation of the KSMP. This could possible signal that the devolution process allowed for the Kisumu to put in place strategies that were already planned. Another seemingly important development (however not associated with constitutional reform) on the National level, that have put the transition to sustainable mobility into perspective could be an event called “ *the march 9th Handshake*” or the ‘*Golden Handshake*’.

The Golden Handshake

Following the 2017 General election ODM leader Raila Odinga met with President Uhuru Kenyatta on March 9th 2018 to initiate dialogue (HORN 2018). This dialogue was an unexpected event as for a long period of time, Kenyan politics was characterised by social tension and political division that would often result in post-election violence. The outcome of this dialogue was that both leaders agreed on ending any animosity and unite for the political and economic advancement of the country. According to Kepher Otieno (2021) of *The Standard*, several flagship project resulted from this handshake, an example of the project Is the ongoing project of the Uhuru Business Park in the Kisumu CBD, which both Odinga and Kenyatta have been seen inspecting. City planner Peter sule (2021) told *the standard* the project included the improving of pedestrian walkways and roads for the purposes of promoting cycling and walking. .

Enterprising individuals and Organisations

The progress made in Kisumu city can be attributed to several government and non-government actors including international (e.g. World Bank and UN-Habitat) and local actors (e.g. NGOs(Cycling out Of Poverty) , civil servants, engineers). However, some have been more influential in influencing policy outcomes. In this section, I discuss the role of the ITDP, the Acting City Manager of Kisumu city and the County Governor.

The institute for Transportation and Development Policy (ITDP) is a non-government profit organisation committed to “promoting sustainable and equitable transportation worldwide” – particularly walking and cycling. The organisation’s notable contribution to Kisumu is its technical support for the formulation of KSMP. On the national level, it influenced a change in street design Standards. The ITDP (2019) observed that a lack of appropriate standards for urban streets hindered the implementation of NMT facilities in Kenyan cities, and in partnership with UN-habitat and the Ministry of Transport, Infrastructure, Housing, Urban Development, and Public Works (MOTIHUD) other international organization starting preparing the *Street Design Manual for Urban Areas in Kenya (SDMUAK)* , the manual seeks to integrate street design that are NMT friendly (ITDP 2019) Another contribution the ITDP (2020) Is highlighting the issue of how footbridges are a waste of public funds and not user friendly highlighted how footbridges how footbridges are expensive and not user friendly (can this be considered unsustainable architecture?).

Enterprising Individuals

Abala Michael Wanga is the Lake Region Economic Block (LREB) CEO, and Acting city manager of Kisumu since 2017, and previously served and political advisor for the Kisumu County governor Prof. Anyang Nyong’o. In 2009, he participated in the constitutional reform process as one of the national and international experts who spearhead the review process. Throughout the years, he participated in the many of Kenya ministries. In Kisumu city, Wanga has been at the forefront of the beautification initiative of the county government to attract tourists and investors (Figure 4 & 5).

One of wanga’s aspirations to in turn Kisumu into a ‘little Singapore’ (Matete & Alal 2021). These sentiments are also shared by a number of property development companies operating in Kisumu to turn it “into another Dubai, for the East African Region (Matete 2016 In Smit 2018: 63). However the beautification process has also been shrouded in land-use management issues resulting in forced evictions (Figure 6) that have resulted in death threats, protests, lawsuits(Matete & Alal 2021, Kiaki et.al 2021). These issues however were beyond the scope of this study.



Figure 4



Figure 5



Figure 6

Another figure spearhead changes in Kisumu is County Governor Prof. Peter Anyang Nyong'o . Prof. Nyong'o is also the Secretary General of the ODM and is credited with the formulation of the *Kenya Vision 2030* during his tenure with the Ministry of Planning and National Development (CGoK n.a) . one of the governors aspirations is that he wants “Kisumu to be very clean and conducive to investment to spur the region’s economy” (Alal 2021). Together with other actors, the abovementioned figures are among the most influential in the observed change in Kisumu city.

Interpretation of findings and Discussion

As literature suggests, policy change is typically characterised by a gradual shift over a long time (Marsden et al. 2013), Kisumu city’s transition towards sustainable mobility is no exception. An emergence of a new perspective of mobility among its policymakers is spurred on by a complex combination of macro-global and micro-level developments. The data suggested that the effects of the global polity and domestic developments shaped both national and city policy that reflected the interest of mobility policymakers.

It suggested that a new perspective of mobility emerged during the early 1990s with the adoption of Agenda 21 in 1992 which coincided with the emergence of the concept of ‘sustainable mobility’ which earned great attention from a number of international organisations that initiated research projects related to the concept around the world. From an institutional perspective, It could be argued that there was a spread of the practices of sustainable development and mobility from the global polity to the national policy, as this coincided with the recognition of NMT in Kenyan national policy in 1994. We could also argue that this recognition of NMT on the national level was a reaction to the exogenous shocks (see page 7) from the global polity.

In Kisumu city, this translated into a form of coercion as mobility policy makers were mandated to adopt sustainability principles by the national government. From an institutional perspective, it

could be argued that the spread of sustainable mobility practices was through a coercive mechanism as mobility policymakers had to adhere to government mandate.

The data also suggests that mobility policymakers in Kisumu city might have been committed to sustainable mobility projects because they are 'bankable' with its capability to attracting loans and foreign investors, this evident in the objectives of the CDS and ISUD Plan and with the aspirations of both the County governor and acting city manager.

Conclusion

This study sought to examine the nature and is to examine the nature of and changes in norms, shared beliefs, and rules, that guide the behaviour of mobility policymakers in Kisumu city , Kenya. Based on the qualitative analysis of conditions leading to the formation of the *Kisumu Sustainable Mobility Plan (KSMP)*, it concludes that an emergence of a new perspective on mobility in Kisumu, Kisumu County, Kenya is a result of a combination of factors (political, economic, regional, and macro-global). It singled out a combination of these factors: global and national incentives, constitutional outcomes and enterprising individuals (and organisations).

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