PROMOTING LOW-CARBON TRANSPORT IN AFRICAN CITIES

A Discussion Paper on the State of Urban Transport and Potential for Cycling in Cities

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ABSTRACT

Major cities in Africa face an overwhelming urban transport crisis which is attributed to a number of factors; key among them is unprecedented motorisation; inefficient public transport systems; incoherent and disarticulated policies, dilapidated infrastructure and an increasing middleclass. This paper discusses potential transport alternatives such as non-motorized systems that can be harnessed for meeting social and economic needs of a growing urban population and its industrialization motif. Non-motorised transport (NMT) which includes cycling and walking which are predominant in many African cities despite limited policy recognition about their potential in socio-economic transformation. The potential of cycling and walking is still an unexploited resource that can change the fortunes of the transport demands of an African city and thus can help to address the attentive and adverse effects of motorisation including pollution and carbon emissions. The prioritization therefore of NMT as part of a national transport system can greatly augment the mobility of citizens, goods and services in a cleaner, sustainable and healthy manner. This discussion seeks to ignite debate on future research that can advance the agenda and quest for a sustainable urban mobility including cycling.

1. BACKGROUND

The urban population in Africa is growing at an unprecedented rate, resulting in increased movement of people and goods. Africa is projected to have more than half of its population residing in urban areas by 2050, which will further exert pressure on urban services including transport.People travel to meet their social and economic needs such as access to work, education, health services, shopping and other interests such a recreation. Use of motorised mobility dominates most trips in cities. The sprawling urban settlements and the increasing distances to be travelled induce dependence on motorised means of transportation. Additionally, motor vehicles especially private cars are perceived as a status symbol and hence the ownership by those who can afford. Planning in many African cities has not corresponded with the rapid urbanisation and unprecedented motorisation. The negative manifestations have been congested streets; increased noise and air pollution; rising carbon emissions; and a precarious walking and cycling environment. The public transport

system has potential to enhance movement of people but is often unreliable, inefficient and unsafe in most cities in Africa. Non-motorised transport commonly comprising walking and cycling is distraught by lack of infrastructure and the negative perception of the mode. Cycling as a mode of transport can provide feasible means without polluting the air and at the same time coming with health benefits. Despite knowledge of some of the benefits of cycling, uptake in African cities is still very low. This essay seeks to ignite debate on future research that can advance the agenda and quest for a sustainable urban mobility including walking and cycling.

2. THE URBAN TRANSPORT SITUATION

Global statistics show that the majority of people in African cities depend on walking for their daily needs (UN-Habitat, 2013) as compared to other means of transport. The UN- Habitat report further noted that in some African cities 30- 35 percent of trips are by public transport for daily commuting. Walking is therefore the principal mode of travel in many cities for short and medium distance trips. The first and last 'mile' part of a journey by public transport is mostly completed by walking. In many cases people do not walk out of choice but due to lack of cheaper alternative modes of transport. Despite these glowing statistics, infrastructure for walking and cycling is in most cities in Africa inadequate, poorly maintained or absent (UN-Habitat, 2013) thereby forcing pedestrians to share motorways thus endangering their lives.

Public transport serves a substantial population of commuters in most African cities on a daily basis. For instance, in Nairobi (Kenya), 33 percent of all trips made in the city are done using public transport (Nairobi County Government, 2015). The public transport system is largely dominated by informal low capacity commuter omnibuses that are privately owned.

The modal share of private motor vehicles is increasing rapidly. Despite this growth, private motor vehicles move fewer people. Furthermore, about 15 percent of trips in Nairobi are by private motor vehicles. This mode is also for a minority population, usually the middle to upper income classes who can afford to own a vehicle. Escalation in private motor vehicles will be unsustainable for cities due to disproportionate per capita use of the limited road space. Use of commuter trains in Africa is still in its infancy if not absent in most cities due to scarcity or unavailability of the requisite investment and infrastructure.

On the other hand, rapid motorisation in most cities has resulted in huge daily traffic congestions and nightmares with gross loss in productive time on the road. For instance traffic congestion costs US$ 570 000 per day in Nairobi, Kenya, i.e. more than US$ 200 million per year (CODATU). Efforts to ease road traffic congestion by expanding the existing infrastructure have not ameliorated the situation, as this induces more traffic resulting in cities trapped in a vicious cycle of inaccessibility (UNDESA, 2012).

Another dimension that further exacerbates the urban transport matrix is the dangers associated with road traffic accidents which records alarming fatalities on an annual basis. TheAfrican region has the highest road traffic fatality rate of about 24.1 per 100 000 population as compared to other regions such as European where the fatality rate is estimated at 10.3 per 100 000 (World Health Organisation, 2013). This scenario presents yet another challenge that compound the urban transport situation in most African cities. Pedestrians, cyclists, and riders of motorized two-wheelers

sometimes referred to as vulnerable road users, account for the greater proportion of the road traffic accidents fatalities.

3. THE ENVIRONMENTAL DIMENSION: CARBON EMISSIONS, POLLUTION AND CLEAN ENERGY

The turn of the century has witnessed renewed calls for human activity to take stock of the environment especially global warning due to carbon emissions. For instance, climate change solutions are calling for a revisit of all forms of human activity including transportation systems that are inevitably emitting carbon dioxide (CO_2) into the atmosphere. The transport sector which relies on fossil fuels consumes about 22 percent of global energy in the form of petrol and diesel. The sector accounts for about 24 percent of energy related Greenhouse gas (GHG) emissions with passenger transport accounting for the bulk of the emissions (International Energy Agency, 2017). Intervention to mitigate the carbon emissions by the urban transport sector is therefore of primacy in this era of climate change and cleaner energy discourse.

As already noted by many commentators, pollution is a major challenge facing cities and rural areas globally but realization of the magnitude of the impact seems not to be widely acknowledged. Some epidemiological studies have linked transport-related contaminants such as ozone (O_3), nitrogen dioxide (NO_2) and sulphur dioxide (SO_2), lead, carbon monoxide and benzene to asthma, bronchitis, heart attacks and stroke. According to WHO (2018) outdoor air pollution in both cities and rural areas was estimated to cause 4.2 million premature deaths worldwide. Transport sector was noted as a major contributor to this ambient air pollution.“If asked to name the world’s top killers, most people would not put air pollution high on their list; it is normally viewed as a nuisance, at the best, but not a terribly serious threat to health” (French, 1991). It can therefore be noted that global warming and climate change have arisen as preeminent environmental concerns which sometimes conveys the misleading impression that conventional air pollution is yesterday’s problem.

As already noted above the quality of life in cities is increasingly being compromised by deteriorating environment attributed to pollution by transport. Mitigation to a more sustainable future calls for adopting cleaner fuels such as low sulphur fuels; switching to electric mobility for low/ zero emissions; adopting higher capacity public transport systems such as Bus Rapid Transit, trains, trams and metros; redesigning streets that cater for pedestrians and cyclists; and sustainable transport policy formulation.

4. LOW CARBON TRANSPORT OPTION: PROMOTING CYCLING IN AFRICAN CITIES

Noting the above, the world is united in a global chorus on the need for transport and mobility that are friendly to the environment, viable to sustain the growing business in cities and continued urbanisation. The need to explore sustainable transport systems in cities has become urgent. According to contemporary discourse on greener transport, the debate on non-motorised means is gaining currency in Africa.

Cycling is a clean mode of transport with zero emissions and thus can contribute to reducing the carbon footprint in cities. Additionally, cycling has been applauded for the health and socio-economic benefits to the users such as exercising, saving time and money.

Despite the virtues of cycling, uptake is still very low in African cities, accounting for less than 3 percent of total trips in capital cities such as Nairobi (Kenya), Dakar (Senegal), Harare (Zimbabwe) and various other cities (UN-Habitat, 2013).The inadequate NMT infrastructure has hampered the growth of cycling. On another note, bearing in mind that a substantial number of trips are by walking out of necessity/ lack of alternatives, cycling has therefore the potential to fill this need. If properly conceptualized in a deliberate and intentional manner, cycling as a means of mobility can be expended to enhance access to goods, services and opportunities without causing much harm to the environment. Furthermore, it promotes good health. It is therefore imperative that pro cycling policy interventions must be pursued if cities are to realize the benefits of this mode of transport.

5. CONCLUSION: TOWARDS DESIRED TRANSPORT FUTURE: SAFE, SUFFICIENT AND AFFORDABLE

Dependence on automobiles that burn fossil fuels into the atmosphere is no longer a sustainable path for cities. The world appears to be headed towards greener, cleaner energy transport solutions of which cycling is one of them. Cycling is a clean mode of transport that can allow citizens to meet their daily mobility needs without causing harm to the environment. African cities have potential to increase the modal share of utility cycling by capitalising on the prevailing attitudes, perceptions and the numbers that are already using this as choice of preference. The potential to increase cycling by enhancing the NMT environment cannot be underscored. In addition to providing dedicated cycling lanes, awareness campaigns and promotional activities can be instrumental for encouraging the uptake of cycling. Noting the growing interests on the subject of sustainable transport including future research on the subject, potential areas can possibly focus on ‘Policy direction for adoption of cycling in African cities’ and on ‘Financing of sustainable transport infrastructure in African cities’.

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