Productive and Liveable Cities
Guidelines for pedestrian and bicycle traffic in African cities

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Executive Summary

01. Urban mobility
Urban transport problems cannot be "solved". Over the last two decades they have only grown, and there is no evidence to suggest that this process will not continue. This is not unique for Africa: Europe, the America's and Asia face the same reality. In Africa, to reduce. some of the most acute mobility crisis effects and to prevent an unchecked further growth of urban mobility and accessibility problems is already a formidable task. To deal with that task, long-term commitment is needed, organisational as well as financial. To translate that commitment into work on the ground, the combination is needed of innovative short-term improvement programs for existing roads with a well conceived long-term urban mobility strategy and vision.

02. Conditions
- Pedestrians dominate the road reserves, walking, trading, meeting, or children, playing.
- Half or more of all urban trips are entirely on foot.
- Most other trips use public transport and also involve considerable walking.
- The use of the roads by motor vehicles, pedestrians, bicycles, etc. is chaotic and dangerous.
- Drivers often show minimal respect for other road users.
- Enforcement of traffic rules and regulations is minimal.
- The traveller throughput per m2 of road per day is often up to ten times higher than in Europe or the US.

03. Problems al city level
- A gradual breakdown of mobility, leading to economic paralysis and prohibitive direct indirect transport costs (a "mobility infarct").
- Long travel distances and insufficient economic activity outside the city centre.
- High numbers of traffic accidents and increasingly severe pollution.

04. Problems at personal level
- High and often unaffordable costs of urban travel, and as a result:
- Severely suppressed mobility and low economic and social participation.
- Expenditure of a far too high proportion of household income and time 0fl daily travel.
- Poor access in large parts of the city, and a general lack of proper walking and cycling routes.
- Outdoor insecurity, in particular after dark.
- Poor pavement quality. On most "walkways" there is no pavement provision at all.

05. Vision and initiative
In order to create economically efficient, cost-effective and safe transport for all inhabitants of African cities, priorities have to be reconsidered. Technical knowledge of how that can be done is important, however, the decisive factors are the vision of the key decision makers that

fundamental changes in urban transport policies are needed, and their initiative to plan and implement such changes. The challenge of urban transport policies for Africa is to achieve a much better level of general mobility and accessibility, *at a much lower cost.* The urban mobility policy target must be cost reduction. The effect of the policy must be that a significantly lower percentage of the city product is spent on transport. One can compare the task ahead with that of restructuring a private company whose profitability and continuity are come under threat. Such restructuring has two sides: increasing the sales of the company's product, and reducing the cost of production. All successful large companies have, during their lifetime, gone through several severe production cost reduction programs. African cities need to do the same with their transport system.

06. Perception of urban mobility problems

An important hurdle at this moment is the perception, by political leaders and decision makers, leading transport professionals and non-governmental opinion leaders, of pedestrian and bicycle mobility in African cities. A much better understanding is needed of its essential role for a more efficient urban economy and a city that is less hostile to the majority of its inhabitants.

At this moment, much better pedestrian and bicycle mobility *is the* transport option that can create a win-win coalition between improved economic productivity, social coherence and an improved physical environment. Hence the general title of the guidelines for pedestrian and bicycle traffic in African cities: *Productive and Liveable Cities.*

We all know that having productive and liveable African cities depends on a large number of factors, and that mobility is only a pawn in the game. However, although often overlooked as an almost inevitable nuisance, it is a vital pawn. It has far reaching effects on economic costs and productivity, on the possibility for the average inhabitant to maintain an effective network of social contacts, and on the quality of the physical urban environment.

07. Urgency

The large majority of all cities in Africa has a low or very low per capita income (city product).. Urban transport systems of a high-income city type, based on private car traffic and relatively expensive public transport, cannot provide for the mobility needs of their population, because such systems are financially out of reach and will remain so for decades. The inability to come to terms with this economic reality has resulted in transport that in large African cities fails to provide inhabitants with the minimum level of mobility that is required for proper economic and social participation. Despite that, it imposes long travel times and an expenditure of up to 30% of their income on the average low-income household. Even the very small higher-income group that can afford a car faces increasing accessibility problems, and the traffic accident toil and environmental degradation toll are high. Building the economy of African cities requires adequate mobility at an affordable cost.

08. A pedestrian foundation.

Pedestrian traffic is the backbone of mobility in cities in Africa. More than cities in any other part of the world, African cities are pedestrian cities. This should not be interpreted negatively. On the contrary: the most attractive parts of high-income cities are their most pedestrianised parts. And a large number of cities in high-income countries have been and are facing economic depression precisely because they are 50 unattractive to live in.

The most innovative and most likely to succeed approach to urban transport and transport policies for African cities now could well be:
take the pedestrian layer of the cities as the starting point and the foundation to build on. Improve the efficiency and safety of the pedestrian route network, and try to adjust the distribution of activities over the urban area in line with this accessibility fundament. Then, fill in the roles of the other modes of transport one by one, in rank of highest performance / cost ratio, i.e. lowest unit cost of travel (financial costs + time costs + indirect costs per passenger km). From a technology / economy point of view the ranking is:

1. bicycle (costing ca 2 USD cent / passenger km),
2. walking (ca 3 ct / passkm),
3. bus transport (ca 4 ct / passkm), then a big gap in unit costs, and then
4. motor scooter (high safety risk), and
5. car (ca 30 ct / passkm).

09. Good governance

The reduction in total cost of urban transport that must be achieved has to come from the combination of an *increase* of the amount spent on road infrastructure and its management and maintenance, and a much larger *decrease* in the direct, indirect and time costs of travelling that this creates. It is clear that this poses a difficult governance problem. The municipal government controls the infrastructure, and has to invest more on its side, but it does not control the operational side, nor does it directly benefit from operational cost savings. Moreover: investments in urban highways and ring roads for motor vehicle traffic invariably trigger an *increase* in total operating costs of transport, because of the increase in longer distance car traffic that they generate. What to do?
Fortunately, navigating cautiously under such difficult circumstances is precisely the challenge of good urban governance, and the vital contribution that the decision makers and urban managers have to and usually aspire to make. Transport professionals may be able to give an "assist", it is the role of the decision maker to score. Experience shows that urban road infrastructure policies are highly visible, and that the way in which they are shaped and implemented makes the basic priorities and management qualities of the urban government very dear.

10. Synergy with recognised high priority issues

Enhancing adequate pedestrian and bicycle traffic in a city is not an isolated subject, but can and should be addressed in combination wit" the following "agendas":

- Economic recovery and employment generation
- Public health improvement
- Environmental sustainability
- Traffic safety
- A more independent role of women

11. Economic recovery programs based on employment generation

There is *an* important macroeconomic effect of the two infrastructure improvement menus mentioned in point 14.1 below, in particular that foî improvement of access infrastructure. This is the employment generation effect of the works. Government financed infrastructure programs are a proven economic policy instrument to fight recession, from their first emergence at a large scale in the US and Europe in the 1930's until the most recent economic stimulation policies of the Japanese government (1997 onwards) and the economic policies of South Africa after the

transition of power to the Mandela government. their applicability and success depends strongly on the local conditions. Their popularity among leading economic advisors varies significantly. Advocates of a globalisation strategy often advise against this type of policy, because it has a strong internal market orientation. However, there is an increasing recognition of the fact that 50 far the African continent has been a loser rather than a winner as a result of the changes in global tenns of trade that occurred, and that it might need to develop its internal strength before selling out to the rest of the world.

12. Decision making

Senior decision makers will usually not themselves be involved planning, design and implementation of road improvement and traffic management schemes. Yet, they must have a good understanding of the basic mobility problems that their cities face, and of how these can be addressed in such a way that problems become smaller rather than bigger. The group deciding on urban transport infrastructure investments in African cities is more diverse and much less firmly rooted in the city itself than it is in other parts of the world. A better balance is needed three-fold:

- between decisions made inside the city and decis ions made outside it.
- between decisions made by public authorities and by the urban communities concerned (the users).
- between prioritising the interests of motorised traffic (car, high- incoine) and the interests of pedestrian and bicycle traffic (the large low-income majority).

13. Background: Sub-Saharan Africa Transport Program (World Bank)

Pilot projects on urban mobility and nonmotorized transport ~MT) were carried out in Dar es Salaam, Nairobi, Morogoro and Eldoret between *1995* and 1999. Their approach was characterised by, in brief:

Integration between

- Road engineering and urban planning, and NMT and motorised transport, and
- User participation: act on the priorities of the majority of the population, and
- Municipal management of urban mobility policies and NMT infrastructure provision.

Targets

- Identify pedestrian and bicycle policies that increase urban mobility and make it more affordable.
- Find feasible models to plan, and interventions to implement such policies.
- Document the costs and benefits of these interventions and policies.
- Determine whether pedestrian and bicycle policies in African cities require special guidelines.

Method: create a complete overview

Monitoring
problem recognition and quantification

Planning

Design

Implementation

Monitoring
verification of effects,
continued problem quantification

14. Findings of ihe SSATP pilot projects

- Two straightforward menus exist for improving pedestrian and bicycle mobility. The interventions on these menus have a high benefit / cost ratio and can create a strong reduction in pedestrian and bicycle traffic accidents. If applied in an entire city, significantly improve the efficiency of *all* traffic, including motor vehicle traffic.
- In medium-size cities, *cycling* provides a high mobility to its users at low cost.
- Development and implementation of effective mobility policies and interventions, that properly reflect the local priorities, by a permanent full-time municipal staff team is feasible, if the conditions for success are created and controlled. Municipal governments require several years of hands-on training and organisational support during the corresponding learning process.
- Where conditions for its success are met, user participation creates a sound public opinion platform, and a positive public / private partnership. Significant risk exists of abuse of user participation for hidden agendas, at government side as well as at private (user) side.
- Specific African pedestrian and bicycle infrastructure design standards must he created and used.

14.1 Findings Intervention menus

- Intervention menu one: pedestrian and bicycle infrastructure (contents: see guidelines).
- Intervention menu two: traffic calming (contents: see guidelines).

14.2 Findings: Urban cycling

In medium-size cities, cycling is viable and can provide an attractive mode of urban travel. To make its potential benefits materialise, the main challenge is to maintain traffic safety, to improve the network of cycling routes and to enhance affordability of bicycles and cycling by women.

- In big cities, cycling is in general not possible now without taking a severe accident risk. To enable cycling in these cities$_1$ large scale traffic calming programs are required first of all, and secondly: large scale improvement of access roads and tracks to NMT standards. The

provision of separated bicycle tracks along large traffic arterials is a wrong starting point for an urban cycling policy.
- Cycling has a significant long-term potential to increase the mobility of women fundamentally.
- Bicycle promotion in the absence of a bicycle safety program, that is actively and successfully implemented, is advised against in cities where now the bicycle traffic accident hazards are high.

14.3 Findings: User participation

A. Requirements:
- Mutual trust between community and government.
- Open user platform membership.
- Early implementation of the first intervention.
- Specific (localised), and focusing 0fl doing things (concrete interventions).
- No affiliation with political parties.
- No personal financial benefits.

B. Benefits that can be created:
- More transpare!1cy in identifying problems.
- More equity in deciding on priorities.
- More financial accountability, and hence: better value for money.
- Optimism and pride (something *can* be done).
- In some cases: direct community share in financing, as a tax by-pass (avoid double taxation!).

C. Forces that motivate to upright participation:
- Traffic accidents, high risk of accidents.
- Bad access in residential areas (or seasonal inaccessibility).
- A high percentage of family income being spent on transport.
- Security hazards of trips after dark.

Summary handed at Vélo Mondial 2000, Amsterdam; June 2000. Refers to draft guidelines version 1.2, May 2000. Version 1.3 (:1:400 pages) will be published late 2000 and be available at cost price. For information on the guidelines, contact:
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