

POVERTY AND URBAN TRANSPORT, LEARNINGS FROM AFRICAN CITIES

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Poverty alleviation programmes are more and more presented as the present challenge for the development policies, so that the question is emerging about the contribution of urban transport sector to achieve such an aim. The analysis of experience of developing cities in Africa makes it possible to draw several conclusions, which are defined once it was acknowledged that there is a vast range of situations and that there is really no single transposable solution just as it is from one city to another.

The African cities which were analysed in this study were Cairo, Dakar, Ouagadougou, Tunis. It was completed by the consideration of French experience, which will not be developed here.

1- Urban poverty and exclusion : from a restrained definition to an extended one

If the level of economic resources was used for long as the only reference to determine poverty, the consensus on the multi-dimensional characteristics of poverty is under way both in the countries from the South and the North. There is no single definition of poverty but in general it can be considered as the lack of resources (economic, social, cultural), of means to obtain a minimum level of food, to participate to everyday life within society and to ensure the economic and social reproduction.

Most of the works on poverty rather analyze it as a state and rarely deal with the processes of precariousness, that is on the multi-dimensional mechanisms of production and reproduction of the inequalities. The notion of exclusion, a term often used instead of poverty in France then provides a frame to analyze these processes, underlining the deterioration of the employment market and more globally the crisis of the social links in the various spheres of the community life.

The definition of poverty remains an uncertain notion, relative within space and time and normative (i.e. definition of the consumption level, definition and assessment of needs other than food). This heterogeneity of the systems of reference can partly explain the gaps which are often observed in the statistics from various sources.

A special aspect of poverty which seems significant in the question of mobility is the dimension of social relation: wealth or poverty should be approached in terms of owned economic capital, in terms of stable resource flows to satisfy permanent needs, and also in terms of social relations which somehow constitute a social capital. This dimension is rarely taken into account in the transport field but it should deserve particular attention. Several works on the crisis in the African cities have

already demonstrated that the network of social relationships can be mobilized to satisfy some needs or solve some problems having economic consequences (Orstom/Ceders, 1997).

Mobility enables people to meet and it is an essential element to maintain the network of relations, to enlarge it, or simply to obtain the desired benefits. An example from Dakar illustrates this aspect: a young widow from Dakar in a precarious situation and having several children has been followed up during eight years. J.F. Werner reports four types of social networks according to the nature of the support which she can obtain. He compares them to concentric circles with the concerned individual at their center (Werner, 1997: 381-383). The *main* network is spread all over the town and elsewhere because it is made of relatives and close friends providing a continuous affective and material support and who remain reliable. On the opposite the *secondary* network is very close in space, located in the immediate surrounding but it can only be requested from time to time (but not too often) for assistance given on a one off-basis. The *subordinate* (client type relations) and *latent* (random activated relations) networks are located in the whole urban space. In order to maintain this capital of relations and change it into an economic capital, this woman from Dakar permanently has to do courtesy visits and participate to family ceremonies and public activities. Thus she has to move all the time, on long distances sometimes. The weakness of her financial means obliges her to walk and she is very often absent from home giving then the impression of neglecting her home and her children.

2- A difficult statistical knowledge of urban economic poverty

The statistical approach of poverty and of the mobility conditions of the various social groups encounters traditional but significant difficulties. Two main survey sources can be used:

- **Household-surveys on mobility** are rare and data is out of date : Ouagadougou 1992 (before the devaluation of the Fcfa). They sometimes are unreliable or unavailable : Tunis 1994. In these surveys, the socio-economic categorization of the households is relatively defective as regards the informal activities or the generalized practices of multi-activities. A recent survey in Dakar (2000) aimed to improve the methodology of such surveys, but results are not yet really available being submitted to a validation process.

The knowledge of the income level is not very accurate in these surveys because of two main reasons: the surveyed households are reluctant to report their income and the concept of income is rather difficult to determine because of the multiple income sources and of their uncertain character in the developing cities. Actually it is difficult to quantify the monetary incomes in economies which are strongly based on informal activities. The level of expenses may then substitute the income level and gives quite reliable information on the standard of living.

- **Household consumption-budget surveys** which are designed as part of studies on living conditions and on the effects of adjustment policies or as a support to the programs of fighting against poverty. If the income is not collected precisely, it is usefully replaced by the amount of the reconstructed expenses of the households (exemple of a set of surveys coordinated by Afristat in 1996 for western Africa). However a trend towards the under-estimation of the transport expenses has been observed in these surveys. It can be analyzed in several cases such as Dakar through the comparison between the estimated aggregated receipts of the urban transport operators and the estimated aggregated households expenses in transport. The surveyed individuals are not thoroughly aware of their transport expenses as opposed to the other expenses such as food, housing, clothing.

These difficulties reflect the complexity of the economic situations of the households in the developing cities but they don't prevent any analysis. However, they impose some caution to interpret the available data.

3- Mobility profile of the poor, case of African cities

The link between the mobility level and the resource level is usually pointed out implying that the poorer have a low mobility rate and in any case they move less than the richer. This statement is calling for some complements. Actually this relationship is working at the city scale, but not when one makes comparisons between cities : one registers poor cities (exemple of Ouagadougou) with a higher mechanised mobility level than richer cities (exemple of Dakar or Abidjan), as many structural factors influence it and their transport system is different. More, in one city, the household resource level should be distinguished from the individual resources because complex relationships appear at their interface for the use of the household resources.

The differences of mobility can be very significant within a household because the access to the transport modes is not equally shared between its members. Thus in Ouagadougou (1992) mechanized mobility (table 7) is very similar for the poor individuals from the poor households (1.7 trip per day) and the poor individuals from wealthy households (2 trips per day). But individual gaps remain significant as social status plays a significant role besides the resource level.

The main difference in the mobility between social groups lies mainly in the practice of walking which is higher than the average among the poorer. Many indicators such as those obtained in partial surveys in Dakar suggest that poverty means a short-distance local mobility and walking sometimes for long distance trips. However, the active poor are led to use motorized modes in a selective manner and they take advantage of the fare flexibility offered by the small-scale operators. It means that for this group of population mobility tends to be globally restricted to local trips.

The differences between social groups are well expressed as one considers transport expenses by quintil of income revenue. One can observe

- the transport share in budget varies from 5,9% to 21,8% from the first to the fifth quintil in Ouagadougou (1996) (table 5). It is the expression of the influence of the revenue on the modal use, varying from walk and bicycle to taxi and moped and then private car. The result is a huge gap between extreme quintils, the transport budget being multiplied by 20 from the first to the other one.
- The figure is a little different in Dakar (table 2) as there are no low cost modes like bicycle available for the poor : the transport share is not so different between the quintils, around 5%, except the last quintil (10%) where one registers the influence of car use. But the absolute values of transport budget vary from 1 to 10 between extreme quintils.

The traditional evidence that walking is the major or exclusive mode of transport of the poor leads to rise the question in which ways their conditions of mobility could be improved. There are three ways which should be combined : by facilitating the pedestrian (and eventually bicycle) trips on acceptable distances, by improving the long distance transport supply at a lower cost and by supplying local equipments and urban services in the concerned areas.

The mobility conditions of the poor rise also the question of their integration in the employment market. The hypothesis that the access to mobility *makes it easier* to get a job seems very plausible but we do not know any specific study on this topic in the considered cities to confirm it. However, some works based on interviews point out that small-scale economic activities cannot develop because of the lack of transport means This situation is even more actual for women, who are obliged to remain near their residential place because of the work division linked with gender and their limited access to transport. It should be recalled that the obstacles to mobility can also have negative effects on the education of the young and later on their professional integration. The bus crisis in Dakar involved more absenteeism and delays at school (pupils and sometimes teachers) and could result in a renouncement to attend school or university (Diouf, 1997).

The professional mobility of the poor (and more generally their whole mobility) mostly occurs in their close environment contrary to the richer whose level of financial resources allows them to travel throughout the city (Diaz Olvera and Alii, 1999) so that the parameters of a vicious circle do exist.

In the same way as the economic development of a rural area can be restrained by difficulties to carry products towards the commercialization areas, the restrictions to the mobility of the young attending school and of manpower strongly threaten the development of the urban societies and economies. The development of cities and the well-being of populations cannot occur if the poor remain confined to the nearby home area because such condition leads to the reproduction and perpetuation of poverty.

There are various modal responses for insuring the mobility of the poor. They have probably to be combined, depending the context of the considered cities.

4- Developing the chances of bicycle as a non-motorized transport, provided that the poor do not constitute the sole target

At the extreme of the range of modes of transport, it is advisable to preserve a place for the least expensive modes which are walking and bicycle. Improving the conditions of walking in urban environments in any case cannot be developed here but should not be ignored, considering its huge role in mobility, specially for the poor. One recommends also maintaining the possibility of traveling by bicycle where such a practice exists, maintaining the possibility of developing bicycle use in the cases where such practices do not exist or do no longer exist.¹

The attention paid to non motorized transport has to be viewed as an element in a more global policy where efforts are made also on public transport supply. So that these policies have a chance to be implemented successfully, it is essential that they do not solely concern the poorest but also other population categories.

The presence of bicycle is significant in few African cities, the main of which is probably Ouagadougou where two wheels are dominating strongly the transport system, both bicycle and moped.

The potentiality of the bicycle

The assets of the bicycle are well known : a low cost of acquisition as compared with the other individual modes (but it still implies to have such an amount of money), a low cost of use, an efficiency of use for the short and mean distances. The mobility level it provides is intermediate between the pedestrian or the urban transport users level on the one hand and the individual motorized modes, such as motorized two-wheels and cars on the other hand. Among the collective advantages the absence of environmental annoyance, the absence of petrol consumption and the reduction of infrastructure needs can be mentioned. The latter point can be discussed and would imply a specific analysis and a global assessment of such plans according to the changing traffic conditions from which these plans could be implemented. Among the potential strategies some are based on supposed low investments with a hierarchy of the traffic lanes network rather than with the multiplication of specialized infrastructures for each mode.

In the case of Ouagadougou the contribution of this mode has been observed with better mobility conditions for the school children and for the poor than in the cities where this mode is not in practice. The development of the urban transport strategy in Ouagadougou would deserve special follow-up efforts.

¹ One can refer to the meeting held in Delft in June 2000 dealing with Low Cost Mobility in African Cities (IHE Delft)

However the use of the bicycle is usually very constrained by unsafety so that traffic conditions have to be changed in its favour through layouts on the lanes which should make it easier to slow down motorized traffic or provide a devoted road space which rarely is the case. From the *technocratic* viewpoint the bicycle thus appears as a potential partial response to the mobility problem of the poorer who cannot afford the price of the public transport fares under the condition that safe traffic conditions can be introduced. But beyond the traffic conditions, the main obstacle is linked with a negative social image of bicycle in the urban context.

The negative social image of the bicycle, the mode of the poor

Even if the use of the bicycle meets environmental concerns (which hardly are felt as a priority in the southern countries), the socio-cultural reality of many countries is a major obstacle to the promotion of this solution, as have demonstrated the works in Sub-Saharan Africa some years ago.

The social image appears as very negative for adult men and women : the users mostly are young men. This image associates several negative factors in urban areas :

- an image of rurality that the urban populations don't want to have
- an image of poverty that the townsmen don't want to show
- an image from the past with an impression of economic and social regression especially among the decision makers.

Thus the bicycle tends to be at the bottom of the modal hierarchy and sometimes less valued than walking.

The conclusion to be drawn is that the actions which could be initiated to encourage the use of the bicycle should not take the poorer populations only as a target because it only would strengthen the bad image of that mode. The development of the bicycle use cannot correspond to a sustained use while the pressure towards the use of motorized two-wheels is very strong for many users especially for the young. All of that implies that a multimodal approach is necessary and that the actions only can be efficient on a long period.

5- The moped, a factor of mobility for groups without car access

The motorized two-wheels or moped can be considered as the car of the poor in developing cities. In Ouagadougou its ownership and use can concern an extended range of population including the poor households with the lowest incomes (table 6). But this mode mainly benefits to the household head, who reproduces strong mobility inequalities within the household. However its contribution is worth even in that case, with extended practices of taking someone with : it is not rare to see two or three persons (two parents and one child) moving on a moped.

Another form has to be mentioned : the moto-taxi which can be found in some developing cities such as Cotonou, Lome or Douala in Sub-Saharan Africa and which plays an essential role in these cities. Its role can be twofold : making easier the mobility of the urban population, including the poor ; giving an employment to many unemployed persons, integrating them in the labor market.

The potentially significant problems caused by this mode (unsafety, pollution, drivers working conditions, a step towards car use) are important but are outside of the frame of this paper.

6- Public transport : Interest in a multimodal system with participation of structured companies and *artisanat* operators

The main component of the public transport supply is road transport. It is composed by two different types of transport, one which we qualify as institutional (structured bus company) and the other as small-scale (*artisanal*, micro-operators with a legal status and a priori there is no organization in the operation of their minibuses or shared taxis).

The limits of the institutional system for the poor

From the case of Dakar where the bus company Sotrac has operated for thirty years, a trend could be observed towards the exclusion of the poor from the institutional public transport system. The majority of Sotrac patronship was composed of civil servants and scholars, benefiting from reduced fares, as people from the informal sector tended to be excluded in practice. This observation should not be considered as a general rule but it reveals a powerful mechanism for a sector of the public transport in crisis. The Tunis case is lightly different as poor have access to public transport (bus or LRT) and do use it, but by a restrained way because the affordability is still a problem (see scheme in annex).

The institutional system operates within an approach of public service, in which in principle, transport should be accessible to all the population and where the transport provision is sustained by requirements concerning the vehicle quality. In fact, the institutional system tends to satisfy the mobility needs of the middle classes more than those of the poor, all the more that the principle of cost covering through transportation pricing results in pricing levels which are not affordable to the poorer.

Globally, the poor cannot afford fares. Moreover reductions or free tickets are not targeted to the poor but benefit to a part of the population (civil servants and their relatives) who even if they do not have a high income (a civil servant may earn less than an employee from the informal sector) their main characteristic is to be integrated in the institutional economy. Another limit of the institutional sector is the lack of flexibility in the fare system or of bargaining. The latter may be a substitute to the fare reduction and gives some kind of advantages but its effects are limited due to its inequitable feature despite the limits linked with its characteristic of inequality.

The transport provision network is organized in the first place according to the trip flows towards the modern sector employment sources located in the *Plateau* in Dakar. The road network is also designed according to this dominant scheme. The institutional system is not equipped to assume other types of transport provision at a reasonable cost, especially in the illegally urbanised areas with a low accessibility level where small-scale operators provide a better adapted service.

The contribution of the small-scale operators system for the poor and the need of regulation

Completing the institutional system, the small-scale operators propose a wider range of transport forms, more adaptive, and with segments better adapted to the poorer populations. The multi-form small-scale operator system makes it possible for the poor to ensure a minimal mobility. The production costs of the small-scale operators are maintained at a relatively low level because of various reduction factors: the use of second hand vehicles, a higher number of daily working hours by the crews, the lack or the weakness of the social insurance, the absence of public service constraints, the limitation of the maintenance expenses of the vehicles, the absence or the low level of management expenses. Moreover the receipts are maximized as they operate in priority on the routes presenting the strongest demand.

The conditions of competition between operators and a symbiosis between the operators and the social practices of urban dwellers enable to limit the pricing level or to propose particular terms to people without resources as it has been analyzed in Dakar: fare bargaining, payment by a third person, or even free transport when the young users know the *receveur*.

But the compression factors of costs also limit this sector and call for a progressive dynamics of improvements benefiting to all of the users including the poorer.

Limits are also observed in the productivity of this sector when it is not organized or regulated and real pricing increases may occur if the competitive background deteriorates as it recently happened in Dakar. In this case, the route-shortening practices have been multiplying during the recent years,

setting further obstacles to the mobility of the poor or middle classes. Moreover the negative external effects the small-scale operators can induce in terms of congestion, accidents and pollution due to vehicle and operating conditions are largely known but this kind of criticism is seldom taken into account.

Thus the last issue concerns the definition of the terms to change from a small-scale transport to a more organized form when a threshold has been reached. To break out from the vicious circle of poverty some measures should be taken to increase productivity which would allow to improve the quality of service without increasing the fare level.

The interest of a complementary scheme company/small scale operator

The transport system and its policy must definitely be multimodal i.e. comprising several components articulated in a complementary manner. This issue especially concerns complementing two-wheelers and public transport, pedestrians and public transport, and the various forms of public transport.

The transport system and its policy must definitely be multimodal, i.e. comprising several elements linked in a complementary way. Concerning public transport, this system must allow the coexistence of structured companies and more flexible and adaptive *artisanat* forms, better armed to meet the needs of certain groups of poor. This coexistence cannot be the result of a *laissez-faire* approach but must come from a regulating (in the sense of *régulation* in French, and not *réglementation*) approach defining the framework of activities of multiple operators, so to guide the transport provision. The limits of institutional transport based on companies operating in a concession pattern have been revealed by some cases such as Dakar or Abidjan where it is difficult to set up new concession holding bus companies. In the same way, in Ouagadougou the bus company holding the concession is in crisis and has not been able to develop its activities as expected, holding only a marginal share of trips.

On another scale, the Cairo case confirms the trend towards complementarity where shared taxis are the first mode in public transport because of their flexibility, but are overtaken by the metro in the routes where demand is the highest.

For the achievement of an organized pattern of modal complementarity, it is also necessary to take the negative effects and possible drifts of the non-controlled *artisanal* sector into consideration. The case of Dakar shows the drift of fares of this sector, at least during peak hours, which becomes an additional obstacle to the mobility of the poor or middle class users.

7- Metros may benefit the poor, if a minimal integrating approach is provided

The achievement of mass transport systems in the form of metros, LRT or rail services usually benefits the middle class much more than the poorest, because of the fare level and served zones. The recurrent question is to know whether the developing cities can afford this type of technical solution and whether the poorest categories benefit from the consequences of these investments.

The considered examples (regional metro in Cairo, light metro or LRT in Tunis) suggest that metros may also benefit poor categories of population, if fare formulas are adapted and metro lines are partially located in areas with low income populations. The key to success would then be the design of a network ensuring a social mixing, which may result from a capacity of integration, unfortunately not really observed in the considered cases :

- Minimal integration with the bus or minibus network
- Integration of the metro project and urban planning.

Defect or limits of urban integration between the metro and other transport services in the popular areas where the majority of the poor populations are living

The design of the metro lines or networks firstly corresponds to a mass transport logic where priority is given to the middle classes. Public transport supply in popular areas is sometimes integrated in the design of the metro projects but it does not constitute the founding principle. Given the financing constraint of such investments the question of the solvent demand is of course the main problem. Taking into account the public transport supply in popular areas thus appears as an add-on or a marginal adjustment which is difficult to integrate into urban planning.

Popular areas are often located in peripheral zones which are quite far from the main activity centers and employment sources. So these popular areas can rarely get a direct metro supply.

Difficulties in the bus-metro integration

Insofar as many poor areas have no direct metro service, fare integration is required to avoid users from having to pay several times for a single multimodal trip and to give them access to the metro. This question is even more crucial with the development of the peripheral urbanization.

Even in the case of Tunis where a powerful public bus company has been preserved such a coordination scheme has not been developed in an efficient manner (the integrated traffic in connection with the bus represents about only 10% of the metro traffic).

There is no single transport authority to regulate, coordinate the various supply segments and each segment generally runs in an independent basis and it can compete with the other segments. There is a lack of such regulatory institutions to federate the various involved bodies and this situation is even more crucial because urban extensions usually implicate various administrative levels .

The metro fare policy, a potentially favourable element for the mobility of the poor

The implemented fare policy in metros seems favourable to the regular users who can benefit from seasonal tickets, and especially to social categories who have reductions on the normal seasonal fare. In case studies (Cairo, Tunis) the young of school age benefit from a very favourable fare (tables 8, 11) and youngsters from poor households located in areas with metro services can benefit from it. This favourable element seems to benefit essentially to the middle classes and to the upper part of the popular classes who are integrated in urban life.

On the contrary the poorest are rejected from the system because they have difficulties to pre-pay the seasonal fare and the fare level of the single ticket is too expensive as related to their resources (see table 8 and simulation scheme in Tunis).

This observation on the influence of fare policy is not specific to the metros but may concern the whole organized sector of public transport. The solutions implemented in France to fight against the exclusion of vulnerable categories (free tickets, reductions for the elderly, the unemployed, the minimal income recipients) hardly can be directly applied in the developing cities.

Feedback on the objectives and contradictions in the metro design in developing cities

Traditionally metros have been criticized because of their high cost and because they require resources which could otherwise benefit to the poorer. Without starting this debate once more it should be observed that the metros neither are designed nor decided in the frame of any policy to fight against poverty. Our analysis simply tried to check whether the poor also could benefit from this type of investment. That leads us to question once again the objectives aimed at during the implementation of the metros.

Hazards in the design and construction of the metro projects induce to clarify the objectives of such projects. These objective must be re-confirmed at the various construction stages: the initial projects risk to loose their consistency (technical choices, layout of the metro lines, reorganisation of other transport services) in situations of political and economical instability, which is the case of most of the developing countries.

It is not easy to integrate metro projects in an urban policy, as illustrated by the case of Tunis where such an integration started during the design of the project, the public transport provision in the rehabilitated areas (Ettadhamen) could not be fully achieved. Actually policymakers tend to use the success of the metro by deciding new lines giving a better access to some areas which are socially sensitive (not necessarily poor, for instance a University campus area). But this short view policy threatens the overall efficiency of metro operation as alternative solutions should be considered.

The potentialities of an integrating pattern to improve the conditions of mobility of the poor are subject to the fulfillment of several conditions, among them :

- High enough metro capacity so it can meet significant passengers volume without having a structural overload
- Low fares adapted to purchasing power, without threatening the financial balance of the metro operation. The question of the financing of investment and of its amortization must then be dealt with other terms than those of fare revenues alone.

The metros, which also represent image promotion and modernity signs for towns, do not easily integrate the objectives aimed to satisfy the needs of the poor. They are submitted to several very different logics:

- a logic of reduction of car use for the access to the city centre,
- a logic of efficiency of mass transport for the mobility of urban populations,
- more recent concerns to preserve the environment,
- a concern, difficult to assume, to integrate the most disadvantaged to urban life.

However the success of a metro should lie in the capacity to find a combination to satisfy these objectives.

8- A French experience based more on the fight against exclusion as opposed to the fight against poverty

If the traditional concept of poverty defined only by the level of monetary resources available to satisfy essential needs is inadequate, it remains nevertheless a useful concept. It is therefore advisable to integrate into a widened concept, both the state of poverty thus defined and the weakness of social insertion in the community which gives access to various services and opportunities, whether they have a market value or not. The physical mobility of the people, within the urban space and everywhere else, permitted by the transport system thus seems a factor of potential richness, and its deprivation a factor of poverty. This widened vision of poverty appears relevant in both the developed and developing worlds. While in developing countries the main element taken into consideration is the weakness of available financial resources, in developed countries it is the concept of urban spaces with a low level of accessibility and social exclusion, which combine several interrelated dimensions: resources available certainly, but also social integration through employment, and social access to urban services in the neighborhood.

Thus the French experience on urban transport does not tackle poverty, but it implements actions aiming at fighting the exclusion of social groups tending to be excluded from social life. The concept of public utility (*service public*) has been used for a long time as a screen for this approach to poverty, public transport being managed in order to be accessible to the whole population,

without however achieving that objective completely. Besides, this objective is in contradiction with others given to public transport like taking a share of customers from potential car users. The ambition of public transport is to succeed in maintaining a total social mixing whereas divergent factors are expressed more and more frequently, as a signal of a trend to the splitting of urban society. Reflection and action plans have been thus focused on the transport provision to zones with a low level of accessibility, difficult districts from a social point of view, where security concerns are the major problems recorded by operators, this situation being the expression of the social unrest prevailing in these districts.

The French context differs too greatly from that of developing countries so solutions, at least some elements, cannot be directly transposable and implemented in developing cities. Nevertheless, several points can be proposed as lines of action, but they must go through an adaptation process before their application. We can thus retain:

- The integration of the transport dimension in the policy of districts having a difficult social environment because of social difficulties and unemployment.
- The taking into account of underprivileged social groups through reduced fares or free public transport, these measures being financed by social budgets. This point depends on the identification of adapted financial mechanisms.
- The organization of a transport authority on the urban perimeter permitting the integration of the social dimension of transport in an overall policy, in concerted action with other partners.

The setting up of a policy to develop public transport through financing coming from the *versement transport*, tax paid by companies located within the urban area served by public transport and having more than 9 employees; for the developing cities similar but adapted forms of financing should be found amongst indirect beneficiaries.

9- Conclusion : the significance of a policy of integration

To conclude the variety of the situations makes that there is no real transferable receipt from a city to another. The mobility systems are different among the cities we considered as well as the mobility situations of the low resource level categories called the poor.

The knowledge about the social conditions of mobility has proved to be not very developed so it is desirable to multiply works on this field to give orientation to policies and to follow up the implementation.

Anyway the need of integration was a key word of this paper, but one knows it is a very difficult matter. Dakar is an interesting exemple of innovation as a new institution was created in 1997, CETUD (Conseil Exécutif des Transports urbains de Dakar). It is like an organizing Authority, but without all power they would need for playing the role of Authority. Cetud will have to integrate transport measures aiming at poverty alleviation in its action but it is probably too early as it needs first to consolidate its own structure and to solve the basic problem of organisation of transport sector in Dakar.

Finally what emerges from the analyses is that a transport policy which would have to fight against poverty as an objective should be able to integrate this objective in a larger policy both in terms of transport policy and urban policy of fight against poverty. The fight against poverty should neither be enclosed nor denied but integrated in more global policy elements. This implies to oblige these global policies to integrate this dimension :

- Integration of transport in the basic actions of fight against poverty, promoting the journey conditions to give access to education, health, employment and food purchase.
- Integration of the mobility conditions of the poorer into transport action plans either from the design or through checking and adjustment when a program already has been launched.

However, these efforts of integration should not suffer from the rigidity of the procedures which would spoil the whole efficiency. The means should be found to make the actors aware of this dimension instead of imposing artificial constraints. The achievement of a minimum of studies and data production on this dimension of the urban mobility of the poor is a prerequisite to this aim. It is evident there are still more questions than answers on the theme we dealt with.

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DAKAR figures

Table1 : Consumption budget in Dakar (%)

Consumption category	ESAM 1994-95	EDMC 1996	Consumption category	ESAM 1994-95	UEMOA 1996
Food	45,1	44,2	Health	4,4	1,9
Clothing	11,3	10,2	Transport	6,8	8,2
Housing	14,3	16,8	Others, miscellaneous	11,5	11,5
Equipment, maintenance	6,6	7,3	Total	100	100

Source: DPS

Table 2 : Estimation of transport yearly expense by consumption quintil (thousands FCFA*)

Distribution by quintil of total expense	Total expense per household	Total expense per person	Transport expense per household	Transport expense per person	% transport in total expense	Total transport expense Md FCFA
Quintile 1	681	62	36	3,3	5,3%	1,5
Quintile 2	1322	133	59	6	4,5%	2,3
Quintile 3	1956	227	88	10,2	4,5%	3,4
Quintile 4	3109	421	177	24	5,7%	6,4
Quintile 5	6868	1537	732	164	10,7%	25,2
Total	2650	283	218	26	8,2%	39

* In 1996, 100 FCFA = 1 FF; 100 FCFA ~ 0.20 US\$

Source: Data from DPS

Table 3 Repartition of trips purposes in Dakar, more13 years aged population, 2000

Mobility rate and Trips purposes %	Men	Women	Average	Trips purposes	Men	Women	Average
Mobility rate, walk included	3,7	2,9	3,2	Visits, sociability	23 %	17%	20%
Mobility rate, walk excluded	1,2	0,6	0,9				
Work	34%	18%	26%	Services	6%	5%	5,5%
School, training	8%	7%	7,5%	Other	23%	24%	23,5%
Shopping	6%	29%	17,5%	Total	100%	100%	100%

Source : Syscom, 2001

OUAGADOUGOU figures

Table 4 : Consumption expenses in %, by quintil of revenue, Ouagadougou 1996

Quintile Type of expense	1	2	3	4	5	Ensemble
Food	42,2	41,4	37,3	33,5	26,7	33
Clothing	7,2	6,7	7,1	6,1	5,8	6,3
Housing	11,1	10,5	9,7	11	11,6	11
Equipment	6,6	6,2	6	6,7	7	6,6
Health	2,9	3,5	3,9	3,3	5,1	4,2
Transport	5,9	9,7	11,9	13,7	21,8	15,6
Leisure	1,8	2,7	3,4	5	4,6	4
Education	3,7	4,6	3,4	3,2	2,9	3,3
Restaurant	13,5	10,5	11,4	10,6	7,5	9,7
Others	5,1	4,4	5,8	6,9	7,1	6,3
Total	100	100	100	100	100	100

Source : INSD

Average transport expense : 182 210 Fcfa by household by a year for a total budget of 1 282 000 Fcfa, ie a share of 15,6%. That corresponds also to a monthly expense of 2693 Fcfa by head.

Table 5 : Transport expenses in Fcfa by household consumption quintil, Ouagadougou, 1996

Quintil	1	2	3	4	5	Average
Transport monthly expense	2 076	6 082	9 915	14 669	43 392	15 184
Total monthly expense	34 930	62 934	83 263	106 768	198 661	97 154
transport share (%)	5,9	9,7	11,9	13,7	21,8	15,6
Household size	7,0	6,6	5,8	4,8	4,0	5,6

* 100 FCFA=1 FF, 100 FCFA ~ 0,20 US\$96

Source : INSD

Table 6 : Rate of household equipment by quintil (%) Ouagadougou 1992

Quintil	1	2	3	4	5	Average
vehicle						
Bicycle or no véhicule	42	14	7	5	2	13
Moped	57	81	85	84	42	69
Private car	1	5	8	11	58	18
Total	100	100	100	100	100	100

Source : Diaz Olvera et alii, 1999 Table 7 : Individual Mobility indicators according a typology of resources, Ouagadougou, 1992

	All modes Mobility	Mechanised Mobility	% walking
Poor individual in poor households	3,5	1,7	51,5
Poor individual in wealthy household	3,9	2,0	48,5
Wealthy Individual in poor household	4,1	3,7	12,5
Wealthy Individual in wealthy household	4,7	4,3	10
Average	3,8	2,2	41,5

Source : Diaz Olvera et alii, 1999

TUNIS figures

Table 8 : Operating Revenues and deficit according fare type, 1998 (DT courants*) LRT Tunis

Titres	Receipt/pass. DT (HT) (1)	reducement %	Operating cost/pass DT		difference	
			excl Amort. (2)	incl Amort. (3)	(1)-(2)	(1)-(3)
ticket	0.288	0	0.160	0.235	0.128	0.053
Weekly pass	0.187	35	0.160	0.235	0.027	-0.048
Scolar pass	0.026	91	0.160	0.235	-0.134	-0.209
Monthly pass	0.160	44	0.160	0.235	0	-0.075
Yearly pass	0.134	53	0.160	0.235	-0.026	-0.101
Average	0.180	37.5	0.160	0.235	0.020	-0.055

* 1 US\$ ~ 0,8 DT

Source : INRETS-SMLT

Scheme : Simulation of transport expenses by a poor household, Tunis

Let us consider an household composed of two adults and four children, one adult is working at minimum wage, ie 150 DT monthly (around 120 USD). Transport expenses can be estimated according the following hypotheses :

Case 1 : low level of mobility

The majority of trips are made by foot. But some motorized trips are necessary for some members of the household :

- 2 weekly travels by adult (2x16 trips)
- 1 monthly travel by child (8 trips)

That is 40 trips for the household costing each 0,390 DT (ticket is obliged as pass cannot be justified considering the low level of usage) the total cost is 15,6 DT each month, or 10,5% of household budget.

Case 2 : middle level of Mobility

One applies norms of mobility found in the surveys. One supposes 1 trip by person by a day, ie one adult going and returning home, and also one child going and returning home. One estimates the monthly expenses :

- métro pass for one adult : 20 DT
- 4 travels for the second adult by a month : 3 DT (8 tickets costing each 0,390 DT)
- scolar yearly pass for 2 children (yearly pass 20 DT divided by 10 months, for each)) : 4 DT

The transport budget is 27 DT par mois, ie 18% of total budget.

CAIRO figures

Table 9 : Mobility rate and revenue

Monthly revenue	Number of persons (millions)	%	Mobility rate	Metro trip rate	Metro share (%)
Less £ 300	2,0	24	1,31	0,11	8
£ 300-500	3,2	38	1,38	0,16	12
£500-1000	2,4	29	1,54	0,20	13
£ 1000-2000	0,6	7	1,64	0,19	11
More £ 2000	0,15	2	1,78	0,11	6
No answer	1,55	-	1,33	0,14	10
Total	9,9	100			

Concerned population : more 6 years aged

Source: SYSTRA-DRTPC Household Survey

Table 10 : Metro fare structure, single tickets, May 2000 (piastres*)

Class of zones	Normal fare	Discounted fare
1 (9 stations)	50	30
2 (16 stations)	60	30
3 (22 stations)	70	40
4 (34 stations)	80	40

** 100 piastres=1£*

Table 11 : Metro fare structure, weekly tickets and passes, May 2000 (£)**

Class of zone	Weekly tickets	Three month passes			
		Private sector	Public sector	Students	ENR*
1 (13 stations)	9	40	25	11	10
2 (25 stations)	10	60	35	16	15
3 (34 stations)	11	70	45	18	17

* ENR : railway company employees

Table 12 : Repartition of passengers and revenues according to the fare structure

Category of ticket	1990			1998		
	Single tickets	Season passes*	Total	Single tickets	Season passes*	Total
Trips (million)	98,4	134,9	233,3	224	243	483 (other incl)
Trips (%)	42,2	57,8	100	46,5	50,5	100
Revenue million £**	29,2	8,2	37	126	33	159
Revenues (%)	78	22	100	79	21	100
Revenue per trip £	0,296	0,061	0,160	0,562	0,136	0,329

** The estimation of trips made by passes is based on the following ENR hypothesis: each pass produces 2 trips by day, for 28,5 days in a month, during 3 months.*

*** In 1998, 1 £ ~ 1,8 FF ~ 0,30 US\$*

POVERTY AND URBAN TRANSPORT, LEARNINGS FROM AFRICAN CITIES

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