Sub-Saharan Africa Transport Policy Program

SSATP Report No 09/04/ Dla

POVERTY AND URBAN MOBILITY IN DOUALA

Final Report

Africa Region
World Bank

September 2004

POVERTY AND URBAN MOBILITY

IN DOUALA

Final Report

Prepared by SITRASS,

International Solidarity on Transport and Research in Sub-Saharan Africa

Sub-Saharan Policy Transport Program (SSATP)
Africa Region
World Bank

The Sub-Saharan Africa Transport Policy Program (SSATP) is a joint initiative of the World Bank and the United Nations Economic for Africa (UNECA) to facilitate policy development and related capacity building in the transport sector of sub-Saharan Africa.

Autres publications sur le site Internet du SSATP

www.worldbank.org/afr/ssatp

Summary Assessment

This study, conducted by the SITRASS network on behalf of the World Bank, is aimed at assessing in detail the conditions applicable to mobility and access to urban services by the poor of Douala, so as to provide background for the identification of targeted programs of action. The study is based on fieldwork conducted in the fall of 2003, in tandem with the efforts carried out in Conakry : discussions with poor city dwellers and household surveys on daily mobility, focused on the poorest households (see inset on methodology). This summary assessment sets forth the main findings of the study and the proposed lines of action.

A. Dysfunctions of the transport system and travel

No discussion of day-to-day mobility in Douala is possible without first making reference to the deterioration of the primary road network and the operational difficulties of urban public transport.

A.1 ROAD SYSTEM: INADEQUATE AND IN POOR CONDITION

The poor condition of the major arteries compounds the difficulties associated with traffic bottlenecks (bridge over the Wouri, access roads to central areas). The interconnections made possible via the secondary network are, with rare exceptions, quite inadequate. The impact on connections within the districts is thus severe. In the vast majority of cases, the roads used to gain access to the households surveyed are surfaced by dirt or laterite (almost 90 percent). Moreover, in more than half of all cases, these roads are impassable by vehicles for part of the year (three months on average) owing to flooding.

A.2 PUBLIC TRANSPORT: A VARIED BUT POORLY PERFORMING SUPPLY

The problems of the road network affect the operation of public transport: slow speed, high operating costs, service shortages in outlying areas. In a context characterized by the limited supply of private vehicles, public transport represents the only motorized alternative for the vast majority of people. Shared taxis, which once benefited from the disappearance of the public transport company, are tending to decline in importance and give way to motorbike taxis (known as *bendskins*). The SOCATUR buses, which are highly dependent on infrastructure conditions, are quite limited in their service and face competition from minibuses and light trucks. This situation is compounded by the plethora of local or state-supported participants in the market, which complicates decision-making and the definition of a cohesive strategy.

The survey duly reflects these service problems as perceived by users. Roads with laterite services are generally poorly served, or not served at all, by public transport; in some districts even the *bendskins* have problems getting about. In isolated districts, the time required to walk to the mass transit stop is significant (averaging 16 minutes on average for poor residents, as compared to 6 minutes from residences in accessible areas). The

dominant means of public transport, the shared taxi, garners few favorable opinions, except as regards the possibility of transporting goods and as regards safety. The cost of using such taxis is deemed to be high, while they operate at slow speeds and do not serve an adequate area. Less expensive to operate and more flexible in terms of their service area, the *bendskins* meet with much more positive reactions, even though their lack of safety is self-evident. The low rates charged by SOCATUR are appreciated, but not the service provided, reflecting the inadequate supply. Overall, despite their diversity and complementary nature, the various forms of public transport are assessed rather negatively by city dwellers owing to the poor quality of service and/or excessively high cost. In particular, shared taxis are regarded as unsatisfactory, which may explain their decline in relation to the *bendskin*.

A.3 INTRACITY TRAVEL IS EXPENSIVE

Taking a taxi costs 50 percent more than riding a *bendskin* (CFAF 195 on average, as compared to CFAF 127). The latter tends to be preferred for relatively short distances, while the shared taxi is suitable both for short or longer runs, which explains why the costs reported for it may vary depending on place of residence: those living on the right bank of the river spend an average of CFAF 240 when they use it, as compared to CFAF 180 for residents of the city center.

The cost of using urban public transport is high in relation to the resources available to poor households, which spend 23 percent of their income (16 percent for the non-poor) on transportation, and slightly over one fourth of them spend even more than 30 percent of their income while mobility by mechanized vehicle that is still quite limited. On average, after deducting the cost of food and lodging from household budgets, members of poor households are left daily with less than the equivalent of the cost of one round trip in a shared taxi for covering their expenses related to healthcare, education, clothing, household maintenance, and ... transportation. Budget constraints thus sharply limit the use of public transport by poor city dwellers.

A.4 "RELYING ON ONE'S FEET"

Poor individuals are somewhat less mobile than the non-poor, but above all they use motorized transport half as much. Walking is the primary mode of transportation in Douala, and accounts for three trips out of four taken by the poor (see table). More often than not, the poor travel in areas near where they live; it is also conceivable, however, that the frequent walking is largely not a matter of choice and poses limits on their possible destinations. Long trips on foot (walking for 30 minutes or more, or at least 2 kilometers), which are particularly common among the poor, are a reflection of the difficulties they have in financing the use of public transport. Despite their generally limited tendency to venture into the center city, poor Douala residents spend a great deal of time on travel from place to place (over 1.5 hours, more than half on foot).

Beyond the laboriousness of foot travel in an equatorial climate, city dwellers are sharply critical of the many obstacles to pedestrian activity: unsuitability of the road network (nonexistence or blockage of sidewalks, condition of the pavement), the unfavorable urban environment (unsanitary conditions, lack of lighting, risk of accidents or assault).

Indicators of daily mobility of poor and non-poor Douala residents (individuals age 11 or more, averages for Monday through Friday)

	Poor	Non-poor
Number of trips, all modes of travel	4.4	4.8
- Of which: Walking	77%	52%
- *Of which: Walking for 30 minutes or more*	*13%*	*4%*
- Of which: Shared taxis (includes shared taxis + *bendskins*)	12%	24%
- Of which: *Bendskins*	7%	12%
- Of which: Other public transport (SOCATUR bus, minibus, undeclared cabs, light trucks)	2%	3%
- Of which: Private vehicles (automobile or two-wheeled vehicles)	2%	9%
Percentage of public transport users walking more than 5 minutes at the start **and** end of their trips	8%	8%
Travel Time Budget	1 hr 25 min	1 hr 45 min

Moreover, despite the close proximity service made possible by the *bendskins* in some districts, 46 percent of the poor (36 percent of the non-poor) walk either to reach the vehicle or at the end of their travel by collective transport. Adopting a strategy of walking a portion of the planned route does make it possible to cut costs, given the practice of "segmentation" that can boost the price of travel by a factor of 2 or 3.

During the week, household tasks take the lead over professional reasons (work or school) as the primary reason for travel among the poor (accounting for 39 percent and 37 percent, respectively, as against 29 percent and 47 percent among the non-poor), while making social contacts constitutes the third major activity area (24 percent). Walking is the customary mode of travel for household reasons (88 percent as against 70 percent for the non-poor) and for school attendance (80 percent) and social activities (73 percent as compared to 56 percent), and is the option taken by the majority for travel to and from work (57 percent as against only 32 percent for the non-poor).

Depending on gender, age, and employment status, the mobility practices of the poor scarcely deviate from two major models, the second of which is dominant:

- choice mandated by the city: the individual must chose between the high cost and problems of access to collective transport on the one hand, and the time requirements and laboriousness of walking on the other hand. A small majority of those in the workforce, older students, and job seekers whose ongoing or potential activities are carried out in the city fit this profile.

- life in the neighborhood : activities gravitate around the home, and mobility is on foot. Trips to the city center are rare, as is the use of collective transport. Those outside the labor force, most students, and many poor workers fit this equally restrictive model.

B. Problematic access to basic services

Transportation problems, as well as the scarcity of job possibilities, and the limited supply of the main services, make it difficult for the poor to participate in external activities.

B.1 GETTING TO WORK: AN OBSTACLE COURSE

Many jobs, both those of wage earners and those in the informal sector, make it necessary to cover long distances because they are concentrated in the city center. Poor members of the labor force travel to work on foot (31 percent of cases) more frequently than do the non-

poor (13 percent). Most, however, use collective transport, despite the unfavorable circumstances: : traffic jams at peak periods, scarcity of vehicles, and hence much time lost and accumulated fatigue. In these circumstances, reaching the worksite often resembles bracing for battle, as indicated by this young supervisor employed at a cybercafé: *"When I get up in the morning, I've got to approach the day like a great battler, because there aren't any means of transport running in the streets."*

In view of these difficulties, there is a temptation for those working in the informal sector to establish their activities near their homes. Confining oneself to the local district, however, is no solution for emerging from poverty. Indeed, among poor independent merchants, those working in the city and traveling there and back by mass transit have incomes almost twice the size of those working in the district (+78 percent after subtracting transportation costs).

The alternative strategy, changing the place of residence to somewhere closer to the job site, is no cure-all in view of the precariousness of jobs, and runs up against other constraints as well (high rental costs in central areas, or more distant housing for those managing to buy their homes). For poverty reduction purposes, therefore, a key challenge is to improve the mass transit connections between residential areas and job sites.

B.2 STUDY: RECOURSE TO THE PRIVATE SECTOR FOR LACK OF A BETTER OPTION

The enhancement of skills and capacities unavoidably entails improving access to education. In Douala, children's access to school would appear to be assured overall, including for poor households. While some enrollment shortfalls may be noted (by comparison with non-poor households) in the 14-21 year age group, the situation is probably less of a concern than in other cities in Sub-Saharan Africa. However, in view of the shortage of primary schools and public secondary schools, the majority of households (whether poor or not) educate their children in the private sector, requiring additional financial efforts that those with low incomes have difficulties taking on.

Children from poor households tend to reach school on foot more than others, even though they have greater distances to travel, regardless of the level (primary or secondary) and the nature (public or private) of the institution, as there are fewer facilities in their area of residence. Accessibility problems (distance from institutions and cost of reaching them) would appear to constitute the second most important obstacle to receiving a good education (after the quality of service in the case of public schools and after cost in the case of schooling from the private sector).

This more costly and complicated access to education on the part of the poor is a factor that promotes inequalities, as it bears upon the chances for academic success of the poorest.

B.3 MEDICAL CARE: A LUXURY FOR MOST

The cost of using the service is the primary obstacle facing poor households as regards access to care, even when they approach the public sector: hospitalization, which is costly, is reserved for the most serious cases, whereas the scarcity and poor provisioning of the public dispensaries are such that they are unable to fulfill their role of providing healthcare nearby. Here again, the private institutions, be they clinics or dispensaries, help address these shortcomings, but the cost of using them often makes them unapproachable by poor city dwellers. While the cost of the service is of course the greatest concern, the problems associated with reaching the locations of care facilities and the deficient quality of service constitute further disincentives for use of these services by poor city dwellers. This results in high rates of self-medication and recourse to "traditional practitioners."

B.4 ACCESS TO FOOD AND WATER: DAY-TO-DAY CONSTRAINTS

Market facilities are not always located nearby: for 56 percent of households, the markets are located outside the district of residence. Even in such cases, travel on foot is the most frequent means of transportation used, especially by poor households. The high cost of food products is the greatest concern by far, followed by accessibility and the quality of service. However, even though the markets in the city center are reputed to be less expensive than those in the neighborhoods, there is reluctance to go to them owing to the time this requires and the cost of so doing.

Access to water is a particularly acute problem in Douala: only 9 percent of poor households (25 percent of non-poor households) have a water tap in the property. Supplying the household with water, a task generally performed by children and those outside the labor force, would appear to be quite burdensome: 30 percent of the poor indicate that they most get their water 100 m to 500 m from home, and 18 percent have to travel more than 500 m.

B.5 KEEPING IN TOUCH: SOCIAL INCLUSION REMAINS FRAGILE

Even though crisis promotes individual responses in terms of behavior, inclusion in a social network is essential in a context of poverty, and is reflected in a sizable share of visits involving mobility. The aim of such inclusion is to improve one's individual standing (finding a regular job or small chores) or, more simply, to "make ends meet" and take steps to cope with unforeseen events (gifts account for more than 10 percent of incomes in poor households). Individuals seeking work are thus called upon to go from place to place in order to demonstrate respect for an elder, to request a service, to take part in family or group meetings, etc. Hence "useful" relationships may be spread over a wide area of the city, requiring lengthy and costly travel in public transport. The difficulties of getting from place to place and the cost of transportation are frequently cited when the poor city dwellers met with mention the factors that tend to limit their sociability.

C. Proposed lines of action

Given the extent of the problems, it would be difficult to justify placing special emphasis on a policy that targets only the poorest. However, settling for a transportation policy intended mechanically to benefit all social groups falls short of the mark. What is needed, rather, is improvement in the overall functioning of the transport system while simultaneously focusing on those components of supply that are best suited to meeting the needs of the poor.

C.1 ACTIONS — ROAD SYSTEM

Free up access to isolated areas by giving high priority to the local road system and finding suitable road designs that can accommodate the lightest vehicles (motorcycle taxis and shared taxis) and can be sustainably maintained.

Improve road and traffic conditions for collective transport operators so as to increase their productivity and efficiency.

C.2 ACTIONS — PEDESTRIAN TRAFFIC CONDITIONS

Provide more space for pedestrian traffic, whether in the isolated suburban neighborhoods, along the major trunk roads and drainage systems, or on the sidewalks in the city center.

The actions needed must facilitate pedestrian movement through a series of improvement measures that have a low unit cost but are closely coordinated and driven by a strong political will.

Explicitly include walking as a mode in urban development policies so as to limit the nuisances associated with the overall urban environment.

C.3 ACTIONS – PUBLIC TRANSPORT SUPPLY

Organize multimodal transport, beginning with the existing forms of transport: buses, minibuses, and shared taxis on the trunk roads, and *bendskins* in outlying districts. Actions targeting the road system and negotiations with representatives of transport operators may help make it easier to provide a minimal level of collective transport service in poor/isolated neighborhoods.

Encourage productivity-driven fare reductions. The fares necessary for unsubsidized enterprises to break even puts them largely out of the reach of poor users. Comprehensive actions to improve productivity (improved traffic flow, efficient operation of roadside stops and stations) should make it possible to lower fares. Doing so presupposes that there will first be a diagnostic assessment of the way public transport functions in Douala.

Create an Organizational Authority for public transport. Its responsibilities would include organizing the network into tiers, dealing with trouble spots in the road system, issuing zone permits, providing support to operators, negotiating fare setting, and providing information to users. The clarification of responsibilities as regards organizing transport in Douala is a prerequisite.

Enhance employment in transportation by improving the sector. The urban transport sector (predominantly small-scale) offers many unskilled jobs open to the poor (*direct* employment in urban mass transit in Douala is estimated at 45,000). Efforts should be focused on improving working conditions, which are harsh in this sector.

C.4 ACTIONS – MAKE BASIC SERVICES AVAILABLE LOCALLY

Provide neighborhoods with basic services (especially the unplanned, "spontaneous" communities in outlying areas). Indeed, addressing the needs of the poor does not just involve the transport supply side, but also the question of where basic services (schools, health centers, markets, standpipes, etc.) are located, with a view to reducing the distances that must be covered. For example, improved access to drinking water would make it possible to reduce the built-in burden of obtaining a supply. The time thus freed up, and the reduction in fatigue, would help promote the participation of women in gainful activities as well as the enrollment of children in school. The conditions affecting accessibility to services should be taken into account beginning at the design phase, in coordination with the authorities concerned.

Methodology

Thirty interviews were conducted with poor individuals (base incomes of less than CFAF 40,000 a month) with varied socioprofessional and economic characteristics (gender, income level, place of residence, level of education, marital status, household size).

The quantitative survey covered 600 households directly in their homes in October 2003 (1,885 individuals over the age of 10 were surveyed). Our preference was to represent the different situations in which the poor live, instead of giving a statistical representation of the city of Douala as a whole. Accordingly, the poor are purposely overrepresented in our sample insofar as the 30 survey areas we selected are from among disadvantaged neighborhoods. More to the point, the more privileged among the "non-poor," are underrepresented, because interviewers were even asked to avoid homes that from the outside appeared to belong to the affluent.

Information was gathered from individuals regarding all travel completed on the day before the survey (except Sundays). A special effort was made to record short trips on foot. A trip has a point of origin and a destination; an activity at the destination; departure and arrival times; a duration; one or more modes of transport, as well as a cost if public transport is used. A single trip may comprise several legs where a mode or vehicle change takes place. Therefore, someone going to work in the morning who walks 10 minutes to the bus stop and then takes a shared taxi would have taken a trip consisting of two legs, the first on foot, the second in a shared taxi. In addition to gathering the previous day's mobility data, the household survey questionnaire provides information on access to basic services, on opinions on public transport and the conditions pedestrians face, on social integration, and even on how much people spend on travel in and around the city. These data have been cross-referenced with the variables on the sociodemographic standing of the households and individuals covered by the questionnaire.

In this study, the poor population is defined with reference to data from prior surveys (Household expenditure-2000, CAVIE-2002): poor households are defined as those belonging (after correction for currency fluctuations) in the first quartile of per capita expenditure from the Household expenditure-2000 survey, with an upper limit of CFAF 272,000 per person (which is the case for 54 percent of the households in our sample). By analogy, a poor person earns an income (corrected by a factor of the total number of persons in the household/number of economically active people in the household) below this threshold (63 percent of respondents over the age of 10 fit this profile). This strictly monetary definition is restrictive because the manifestations of poverty are multidimensional. If this definition is broadened (by taking into account housing conditions, access to facilities, or the extent to which food requirements are met), the levels of poverty change, of course, but the structural relationships observed herein are quite robust.

The Sub-Saharan Africa Transport Policy Program (SSATP) undertaken by the World Bank and the Economic Commission for Africa (ECA) has the objective of developing a full understanding of the mobility and accessibility conditions applicable to poor populations in African cities, prior to the identification of targeted programs of action. The Urban Mobility component of the SSATP has turned to the SITRASS network to carry out the present study on Douala, with financing from the French Ministry of Foreign Affairs. This study is aimed at elucidating the nature and scope of the major needs of the poor of Douala with respect to mobility, specifically by analyzing the social, economic, and spatial parameters that come into play. A similar study focuses on the city of Conakry.

The SITRASS network, the primary goal of which is to develop and consolidate African expertise in the area of transport economics, brings together researchers from the Transport Economics Laboratory (*Laboratoire d'Economie des Transports*: LET) in Lyon, the National Institute for Research on Transport and Transport Safety (*Institut national de recherche sur les transports et leur sécurité*: INRETS), and African teams to conduct studies and research on the transport and road safety sector in Sub-Saharan Africa.

In connection with this study, we have had the opportunity to meet with various government officials and private sector representatives (labor unions of transport entrepreneurs and drivers, community leaders, city officials and employees, etc.). We would like to express our sincere gratitude for the time and information that they so generously provided. In particular, we would like to thank Joseph TAMCHE and Claude TCHAMDA of the National Statistics Institute, Gaetan MANDENG and Jean YANGO of the Urban Community of Douala, and, in general, all the interviewers and supervisors as well as the "mere" citizens without whose participation this study could not have been conducted.

The following experts contributed to the study on Conakry and Douala :

- Didier PLAT (Team Leader, Transport Economics Laboratory, Lyon)
- Amakoé ADOLEHOUME (Chief Representative, SITRASS)
- Bano BARRY (University of Conakry)
- Esther BOUPDA (University of Douala)
- Lourdes DIAZ OLVERA (Transport Economics Laboratory, Lyon)
- Xavier GODARD (INRETS, Arcueil)
- Louis-Roger KEMAYOU (University of Douala)
- Pascal POCHET (Transport Economics Laboratory, Lyon)
- Maidadi SAHABANA (Transport Economics Laboratory, Lyon)
- Bi Nagone ZORO (AIDET, Abidjan)

At the SSATP level, the study was coordinated by Hubert NOVE-JOSSERAND, senior urban transport specialist at the World Bank.

ANALYTICAL FRAMEWORK

Poverty has traditionally been pinpointed on the sole basis of economic resources available to the household, but a consensus has gradually emerged regarding the multidimensional character of poverty in many works and papers produced by international institutions. Yet there is no single definition of poverty, even though, in very general terms, poverty can be viewed as a combined lack of various resources (economic, social, cultural, etc.) limiting the capacity to meet minimum nutritional standards, participate in the daily life of society, and ensure economic and social reproduction. Obviously, reference to a minimum level of monetary resources is an indispensable step in identifying situations of poverty.

However, in the majority of households, individuals are relatively independent in using individual resources, which can result in their having different capacities for financing their travel, independent of the household's general circumstances. Earlier work on Sub-Saharan capitals shows, for example, that access to a personal vehicle is determined by the availability of individual resources more than by household resources (Diaz Olvera et al., 1998). The distinction between household poverty and individual poverty thus adds an extra layer of knowledge to the analysis. In particular, the individual/household distinction makes it possible to focus on the specific needs of various especially vulnerable categories. These categories, such as youth and women, are often targeted by general poverty reduction policies, but no transport component is systematically included, and it is important to develop ways to better describe their mobility needs.

Mobility, defined as all trips made over a given unit of time, usually one day, is simply the means to carry out a number of activities that are localized in both time and space. Of course, observed demand for transport does not fully expose all travel needs, nor ultimately all activities, of individuals. It only shows the needs that could be satisfied, hinging on transport supply, on the one hand, and on the capacity of individuals to tap this supply and cover its cost, on the other, and depending on urban opportunities for activities.

Such mobility thus faces a major constraint, namely the urban supply of services. Some services are concentrated in specialized buildings, designated as urban facilities (hospitals, schools, playing fields, etc.), while others may be more diffuse, reaching individual dwellings: these generally involve networks to which a household may or may not be connected (water, power, telephone, etc.). If the home is not connected to the network, then household members must resort to home services (for example, itinerant water sellers) or make use of outside services (standpipes, phone shops, etc.), which means obligatory trips for some members of the household, often at a higher cost.

Thus, the concept of accessibility emerges as a complement to the concept of mobility. The concept of accessibility is akin to a population's ease of travel in order to reach urban facilities or services, starting out from their place of

residence. The concept encompasses the conditions of physical access (time or distance, possibly transport costs) to the facilities, but does not generally take into account other sociocultural or economic dimensions that may limit or even prevent using the facilities, even if they are easily accessible from a spatial perspective. To better analyze travel practices, it therefore seems helpful to assess the population's real conditions of accessibility.

RESEARCH PLAN

Field focused on three complementary goals: produce an overview of the city and its transport system; interview poor city dwellers to understand their travel needs; and measure mobility practices and problems regarding access to basic necessities through a quantitative household survey. In addition, a meeting was organized in May 2004 to share the preliminary findings and sketch out the lines of action. This one-day meeting was attended by institutional representatives, transport operators, members of civil society, and donors (see Annex 8).

Assess urban transport supply by meeting with the principal actors

We initially set out to meet the principal representatives of the services in charge of city planning and transport, at both the national and especially the local level. The purpose was to build up knowledge of the urban setting, how it is organized, and how it is growing, in order to back up the quantitative data in the analyses. We also attempted to identify potential links between urban and transport policies and assess the feasibility of multi-sectoral poverty reduction measures.

Group and individual interviews were also held with transport sector professionals, mainly the owners and operators of public transport vehicles. These interviews, along with those held with the sector's supervisory authorities, allowed us to see not only the current conditions under which the sector is operating, and thus its potential for change, but also the pool of potential jobs that it represents. On this last point, the information was rounded out by an examination of official records and by selective vehicle counts on a number of arteries.

Assess mobility needs and problems of accessibility by listening to city dwellers

Some thirty in-depth interviews of poor city dwellers were conducted during the summer of 2003, based on a clearly identified line of questioning with a combination of factual and open-ended items. The interviewees were chosen to ensure diversity in terms of gender, employment status, and residence location within the urban space (see Annex 1). The interviews revolved around three main topics:

- identification of travel difficulties and individual strategies of mobility, based on adaptations in the use of modes of travel depending on travel purpose, the temporal variability of practices, etc.;

- the purposes and conditions of visiting a number of facilities, whether present in the neighborhood or not (schools, health centers, etc.);
- finally, social practices and associational networks, and the role that transport plays in this area, as either an enabling or a limiting factor.

The qualitative approach was rounded out by group interviews with various populations who undergo specific problems of transport or are in a position to express the voice of city dwellers: community leaders, women merchants, and parents of students.

Assess mobility behavior by producing a statistical data base

A survey of 600 households was conducted (in which 1,885 individuals over 10 years of age were personally questioned) in order to pinpoint and measure mobility circumstances and behaviors in relation to poverty. Apart from describing the situation of individuals, the purpose was to assess the average mobility of various subgroups of the poor population, describe the actual use and the perceptions of different modes of travel, identify unit costs of travel and relate them to total travel expenses in the household budget, and, finally, pinpoint the conditions of access to various basic services for these subgroups. The final questionnaire is presented in Annex 2. Annex 3 provides an assessment of the questionnaire and the field work.

Evaluating these variables within each urban agglomeration makes sense mostly from a comparative standpoint, so it is necessary to assess these variables for other population groups. This objective was reached by establishing a sample, not of poor households, but rather of households residing in areas considered to be poorer than average city-wide. Since the great majority of neighborhoods are, at least partially, socially heterogeneous, a random selection of households in these areas is sufficient for establishing a control subsample of non-poor households and/or individuals. The selection of neighborhoods was based on secondary analysis of earlier surveys (see Annex 4). Map 1 indicates the location of the selected areas, which are scattered throughout the city of Douala. However, owing in fact to this relative social blending, past experience has shown that it is difficult to obtain high rates of poor households without first possessing a reliable and recent sampling frame (see Annex 5). Still, the final sample is fully adequate for closely describing contrasting situations among poor populations for which the estimates appear quite robust (see Annex 7).

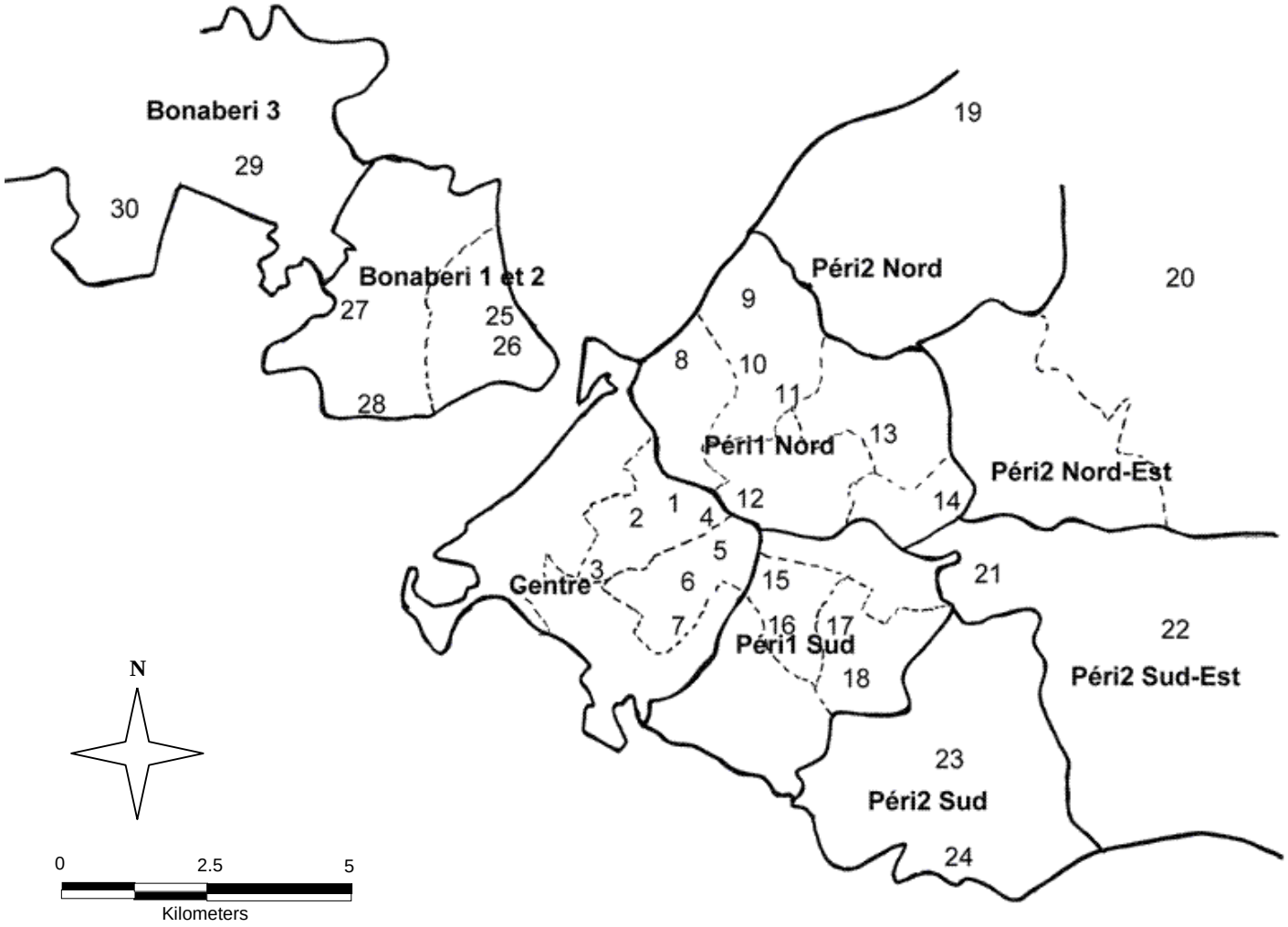
The definition of poverty that was used in processing the quantitative survey remains strictly monetary. The households considered to be poor are those whose per capita income is less than CFAF 272,000 per year, that is, the maximum per capita income (following updating) for households in the first quartile, according to data from the 2000 survey on "Household Expenditure." This definition is still, of course, debatable, because it poorly reflects the multidimensional character of poverty. In the opposite case, a description of household and individual poverty that immediately placed the emphasis on

access (or rather lack of access) to basic necessities or social networks would have made the analyses focusing on these various dimensions fairly tautological, at least to the extent that the strictly monetary effects of poverty had not been clearly grasped. Our choice of monetary poverty (of households and individuals) is therefore accompanied by the objective of characterizing and analyzing the difficulties faced by individuals and households as regards daily mobility specifically, but also, more generally, their daily living conditions and the weight of travel in the difficulties they experience.

We shall first describe the context in which Douala's system of transport operates. The second chapter discusses the conditions of access to this system of transport from the perspective of city dwellers, as well as their opinions about walking and public transport. The third chapter then discusses difficulties of access to basic necessities, and the fourth describes the mobility of Douala residents, by distinguishing various groups of residents. The weight that travel represents in household budgets is assessed in Chapter 5. The final chapter identifies various lines of action conducive to the mobility of poor city dwellers.

Map 1: Location of the quantitative household survey areas

1. Bonalembe
2. Ngodi
3. Nkongmondo
4. Mboppi
5. Nkololoum
6. Sebenjongo
7. Ngangue
8. Bonatene
9. Bonamoussongo
10. Bepanda Voirie
11. Maképé II Yoyong
12. Ndogbati
13. Ndongbong
14. PK8
15. Nylon Barcelone
16. Soboum
17. Oyack
18. Bilongue
19. Mbangue
20. PK14
21. Logbaba
22. Nyalla Etrangers
23. Ndogpassi
24. Mboko
25. Bonambappe
26. Besseke
27. Grand Hangar
28. Manbanda
29. Ndobo
30. Bojongo



1. THE DIFFICULT CONTEXT OF URBAN TRANSPORT IN DOUALA

Douala, with a population of roughly 2 million, is the largest city in Cameroon: more than one of every ten Cameroonians lives here. Its population growth rate continues to be high. As a port and a natural gateway for the arrival of imports and the departure of exports, Douala accounts for the bulk of the country's industrial and service activities: more than half of Cameroon's economic activity and industrial production reportedly takes place here. However, the geographic setting is unfavorable. The city must reckon with a highly constrained natural site. A number of unplanned neighborhoods have sprung up in swampy areas, and on the slopes of streams andnatural drainage basins. This is specifically the case in a majority of the survey areas. The Wouri River which crosses the city also poses a major constraint for travel, since the sole bridge between the two banks creates a notorious bottleneck.

1.1. INSTITUTIONAL FRAMEWORK: MULTIPLE PLAYERS AND LITTLE COORDINATION

Douala is divided into five urban arrondissements plus one rural arrondissement, which is excluded from the scope of the study.[1] Each arrondissement constitutes a municipality with an elected mayor and a municipal council. The Urban Community of Douala encompasses all the arrondiseements and is headed by an appointed government representative, while the Community's municipal council is composed of a number of officials elected by the arrondissements. At the local level, the Urban Community has authority over city planning and urban development, traffic and transport, maintenance of main roads and signals, parking, etc.

But the Urban Community must share its authority with the central departments and their local delegations, although the boundaries of responsabilities are not always very clear. The City Ministry is steering development of the future Urban Development Master Plan and the Public Works Ministry is managing the rehabilitation of the bridge over the Wouri River (see Box 1), while the Transport Ministry issues transport licenses. In addition, a number of transport licenses are issued by the arrondissements and the Urban Community has no right to intervene.

This situation is problematic inasmuch as the city's last Urban Development Master Plan dates back to 1982 and development of the Urban Travel Plan would appear to depend on the adoption of a new Master Plan, for which the process is already well behind schedule. Thus, there is no comprehensive and continuous strategy for urban transport and urbanization in Douala. Development of a strategy of this sort is, however, complicated by the absence of local structures to

[1] The rural arrondissement is the offshore, lightly populated island of Manoka. Contacts between Manoka and continental Douala remain very limited.

ensure coordination, either between institutional actors, making it possible to address their multiplicity, or with transport operators.

Box 1: Rehabilitation of the bridge over the Wouri River : A key factor for change ?

The bridge over the Wouri, built in the 1950s, is the only connection between the Bonabéri arrondissement, on the right bank, and the rest of the city. It has two traffic lanes, separated by a railroad track. This is the daily point of passage for employees of enterprises in the Bonabéri industrial park who live on the left bank of the Wouri and, in the opposite direction, for residents of Bonabéri traveling to the city center. This bridge also provides a connection to the western part of the country for people and for cargo (including a portion of Douala's food supply) transported by either road or rail.

Bridge rehabilitation work has been in progress since late 2003 and will continue until October 2005. To avoid cutting the city in two, traffic is being maintained during this period, which has led since April 2004 to traffic restrictions affecting urban transport: taxis and *bendskins* are prohibited during the day and a special SOCATUR service has been set up to make the crossing. Despite the reduced number of lanes, the ban on taxis has made for a good traffic flow on the bridge and the roads leading to it. On the other hand, the special SOCATUR service imposes the use of an additional mode of transport for some users of urban transport and obviously an additional cost.

These measures have to some extent disrupted transport supply, but will they have a lasting influence over it? Based on statements by various parties, the measures in question are not rigid and are readjusted from time to time. Rehabilitation of the bridge has also served to stimulate discussion in the media concerning the development of a second bridge. The city's earlier urban development plans for the decade of the 2000s called for such a bridge, but it has not been built for lack of financing.

1.2. ROAD SYSTEM: LIMITED IN THE OUTLYING AREAS, SERIOUSLY DETERIORATED AND VERY CROWDED ON THE MAIN ROADS

As in most Sub-Saharan cities, the road infrastructure has a hard time keeping pace with urbanization in Douala. Paved roads are mainly concentrated in the central areas. In the outlying areas, the only roads surfaced with asphalt are the main radial streets and a few interconnections in areas that have been targeted by urban development programs (Douala Nord, SIC housing projects, etc.) or restructuring programs (Nylon). Inasmuch as unplanned neighborhoods are the result of anarchic development, roads in these neighborhoods are sometimes simply nonexistent. Access to dwellings is then limited to narrow, winding, unsanitary alleyways. In some districts, residents maintain the alleyways themselves. But the human investment has its limits when major works are involved or when some refuse to cooperate, sometimes because of insufficient income.

The asphalt roads have experienced serious deterioration affecting the main central boulevards (Carrefour des Deux Églises, Boulevard des Nations Unies, etc.) as well as outlying connectors (Route d'Edéa, Route de Japoma, etc.). Notable efforts are now being made to rehabilitate the network.

A number of barriers gird the central areas of the city: the river, the Bessengué rail station, the Bassa industrial park, and the former airport. For motorized travel originating in Bonabéri or the east side of the city, access to the center mainly follows four paths: from north to south, the bridge over the Wouri, the North Akwa Road, Ndokoti, and the main highway (*Axe Lourd*). Access to the center is, of course, complicated by the deterioration of the road system and roads are daily jammed at peak hours. In addition to the deterioration of the road system and the heavy traffic, bottlenecks are also caused by the lack of traffic lights and traffic policemen, ongoing construction, parked vehicles obstructing the flow, etc.

1.3. A DIVERSIFIED SUPPLY OF PUBLIC TRANSPORT

Five forms of public transport coexist in Douala: taxis, motorbike taxis (known as *bendskins*), SOCATUR buses, minibuses and light trucks (known as *cargos*), and undeclared cabs.

Taxis: A declining mode of transport

Taxis are the oldest regulated mode of urban transport in the city of Douala: they are vehicles with five seats that are painted yellow and bear a number on the front doors. Operating a taxi requires a number of licenses for both the vehicle and the driver. In general, each vehicle is operated by two drivers, who share the work based on periods of the day, days of the week, or simply their respective need for rest. On the basis of taxi driver badges that have been issued (these are personalized and mandatory for operating a taxi), we estimated the total number of taxi drivers at 12,000 for a fleet of 6,000 to 7,000 vehicles.

There are generally no fixed routes, as the taxis' itineraries are determined by clients' wishes and drivers' choices. But the drivers may favor certain service areas and confine themselves to these areas during part or all of the day, in which case lines may form. The taxis operate either in a shared mode ("pick-ups"), at a base fare of CFAF 150, or in an individual mode ("trips" and "drop-offs"), at a price that is systematically negotiated prior to embarkation. Urban expansion and the development of traffic jams push drivers to select certain routes,i. e., some taxis never cross the bridge, and others serve only the city center.

The taxis in Douala are used vehicles imported from Europe that break down all the more easily because the roads are in poor condition. Taxi operators must "sacrifice" old vehicles to serve neighborhoods with difficult access or else abandon these areas to undeclared cabs. The operators maintain that business is not as profitable as it used to be, and cite as evidence a major reduction in the size of the taxi fleet. The reason allegedly has nothing to do with competition, because they believe "there is room for everyone," but lies instead in the poor condition of the roads and harassment by the police. Some taxi drivers have reportedly become *bendskin* drivers to escape this harassment.

Bendskins: A booming mode of travel

Motorbike taxis first appeared in Douala in the early 1990s and their numbers have steadily increased ever since. Estimated at roughly 10,000 in 1997 (Godard, Ngabmen, 2002), we estimated their current number at 22,000, directly accounting for some 30,000 jobs. In view of the sizable market, factories have sprung up in the city to assemble small-engine motorbikes. *Bendskins* are primarily operated by youth outside the school system and former drivers of taxis or other vehicles. To engage in this work, they must pay a tax at one of the arrondissement mayors' offices and have both insurance and a license plate.

In the opinion of the operators themselves, the boom in *bendskins* is due to their ability to reach places inaccessible to four-wheel vehicles, their low cost (base fare of CFAF 100, i.e. cheaper than taxis by a third), and the proliferation of traffic jams which make them quicker than other modes of travel at peak hours. These advantages should not obscure the many grievances held against them. They are blamed for imprudent or even dangerous driving, resulting in many accidents. The *bendskin* operators, aware of their strength, join ranks in the event of a dispute between one of them and other users of the road system, and they no longer hesitate to stand up to the authorities. But such behavior may have its roots in a lack of knowledge on the part of operators concerning regulations in this area: are they, or are they not, required to register their vehicles, carry registration papers, paint their bikes yellow, etc.?

SOCATUR buses: a very limited supply

SOCATUR emerged from a concession, awarded in 2000, covering the former bus lines of the defunct SOTUC, the public enterprise for bus transportation. It holds an exclusive, 30-year agreement to operate vehicles seating more than 30 passengers. The fare, currently CFAF 125 regardless of the distance traveled, must be approved by the government. As of July 2003, SOCATUR possessed a limited fleet: between 5 a.m. and 9 p.m., 63 buses operated along 11 routes, mostly radial and passing through the city center. It had 400 employees, and each bus was manned, in addition to the driver, by a conductor, an inspector, and a security officer. The latter is responsible for preventing theft and for maintaining discipline as passengers board the bus.

Transport supply as provided by SOCATUR is limited to the road system passable by its vehicles. This is a problem not only in the outlying areas: the seriously deteriorated condition of some main roads close to the city center occasionally causes the company to modify its routes unless it fills the potholes itself. The poor condition of the roads is rough on second-hand vehicles, and operating costs are higher as a result. The company is asking the government to take more fully into consideration the public nature of the service it provides: customs facilities would allow it to expand its fleet, and tax incentives could be reflected in fares. The company also deplores the brutal, unsanctioned competition of minibuses that take on passengers at its stops.

Minibuses and light trucks: a restructured supply since the emergence of SOCATUR

Minibuses and light trucks have the same mode of operation: fixed loading points and line service to surrounding districts (Village, Ndokoti/PK14/Nyalla, Bonabéri, and Bépanda) from the center (Bonanjo, Akwa, and Central Market). The only difference is the type of vehicle. The light trucks are vehicles for hauling cargo that have been adapted to carry passengers. They usually have a higher capacity than minibuses, on the order of 30 seats. Having recently awarded SOCATUR exclusive rights to operate vehicles with more than 30 seats, the government decided to prohibit the use of light trucks that carry passengers. This decision has shifted transport supply toward minibuses, which are still authorized to operate, as the light trucks have retreated to the outlying areas of the city. We estimated the current number of minibuses and light trucks operating in Douala at 300-400 vehicles, directly accounting for approximately 1,000 jobs.

In some of the more remote and hard-to-reach areas, they are in fact the only means of motorized transport. But the dilapidated condition of the vehicles and the practice of overloading them make them especially vulnerable to road accidents.

And, "naturally," undeclared cabs!

These are mostly vehicles in very poor condition that owners "sacrifice" by assigning them to serve areas that are very isolated as a result of the condition of roads ("subdistricts" and distant outlying areas). Undeclared cabs are by definition elusive, as the officials of transporters' unions admit, even though they are affiliated with them, at least to some extent. According to our estimates, there are some 200 vehicles of this type, directly accounting for 200 to 300 jobs. But there are also residents who use their own vehicles to provide transport in the city. It would be impossible to estimate their number within the scope of this study, but it fluctuates widely depending on the intensity of police controls.

The urban transport sector, a major source of unskilled jobs

This rapid analysis of the supply of urban public transport in Douala shows a sector undergoing substantial change. The liquidation of SOTUC and liberalization of the sector benefited taxis and led to a boom in minibuses and light trucks. Today, taxis are on the decline, and *bendskins* are experiencing a boom. The reintroduction of buses for urban transport under the SOCATUR concession, accompanied by the prohibition on light trucks, also represents a new state of affairs that warrants examination. However, three years after it was created, SOCATUR has not yet truly transformed the landscape of urban transport in Douala. With this as an example, it is worth raising the issue of the future of organized urban transport by bus in this city that continues to grow. Another major issue is the future of motorbike taxis in Douala. Has this activity reached its numerical limits, or is further expansion likely? Will the government manage to organize this activity?

The analysis also shows that the urban public transport sector is a very substantial source of jobs. Previous mode-by-mode estimates suggest that, in total, more than 43,000 jobs are directly generated by the various modes of urban transport in Douala (see Table 1). In addition to these direct jobs, we estimate that the sector accounts for some 15,000 jobs for mechanics, tire mounters, sellers of automobile and motorbike parts, gas station attendants, loaders, car washers, etc. Altogether, urban transport in Douala thus generates close to 60,000 jobs. This is of course but an estimate based on various assumptions, which only an in-depth study could validate and refine. But the order of magnitude appears to be realistic and shows the important role of the urban transport sector in Douala in terms of employment.

Table 1: Jobs directly generated by various modes of public transport

	Taxis	*Bendskins*	SOCATUR buses	Minibuses / light trucks	Undeclared cabs	Total
Jobs	12,000	30,000	400	800-900	200-300	Approx. 43,500

With the exception of SOCATUR employees, there are few permanent jobs and some are extremely precarious (for example, temporarily replacing a driver friend who is sick or away). These jobs fall outside the framework of labor regulations: no contract, no limits on hours of work, no access to social benefits. The specific case of *bendskin* drivers is, from this perspective, worse than the others in all respects: less income, less comfort, greater exposure to accidents, greater risk, etc. But these direct jobs require few qualifications (knowing "how to drive" is virtually the only one, and even this is debatable) and may thus appeal to a population with little schooling.

2. AN URBAN TRANSPORT SYSTEM NEGATIVELY PERCEIVED BY USERS

The household survey assessed access to transport networks on the basis of the time needed to reach the nearest road, the quality of the road, and the time needed to reach the public transport stop that the members of the household use most frequently. The households' opinions about different modes of transport help to fill in the picture by showing how city-dwellers feel about walking and using public transport.

We will not deal with personal modes of transport. Even though virtually all the city-dwellers surveyed aspire to owning their own transportation some day (preferably a car), very few of the households in the survey sample own any means of transport. Bicycles are marginal (1 percent of households), and fewer than 4 percent of households have motorized two-wheel vehicles. Close to one of every ten non-poor households owns a car, but among the poor, the population we are focusing on, car ownership is virtually nonexistent. Even a bicycle represents a major purchase on a tight budget, as noted by one young bachelor who has two brothers to support and who, armed with a technical college diploma (DUT) in management, is making ends meet by working as a cybercafé supervisor: *"[Laughter.] Just to buy a bicycle would take my full salary. Maybe in six months I can do it! But if I can't afford a new bicycle, I can't even dream about buying a motorbike for 400,000 francs!"* Therefore, public transport provides the only access to motorized modes of transportation for the poor.

2.1. CONDITIONS OF ACCESS TO THE TRANSPORT SYSTEM: A GREATER HANDICAP FOR RESIDENTS OF ISOLATED DISTRICTS

The first step toward access to public transport is reaching a serviceable road. And this is only the very first step, since the road in question may not be one used by public transport vehicles and the passenger will have to continue walking to reach a transport stop. Then, the wait for transport to arrive may be a long one. This indispensable first stage is the greatest source of inequalities among Douala residents.

But the poverty of the household is not as important as the location of its residence in the city, and especially its location in relation to the main radial roads, when it comes to determining access to transport networks. The survey shows that households living in isolated areas very rarely have an asphalt road in proximity: *"I'm at least a kilometer from a paved road,"* in the words of a 29-year-old man who lives in Bépanda Petit Wouri. In these areas, access is typically limited to roads surfaced by dirt or laterite (almost 90 percent of households). The distance from the center is also a highly discriminating factor. Two of every three households on the right bank (Bonabéri) and practically all the households surveyed in the outermost reaches of the left bank, i.e. in the areas of unplanned urban sprawl, first encounter an unpaved road. Such road is impassable during part of the year (three months on average), generally due to flooding, for one of

every four households in the outermost areas, but in more than half of all cases in isolated districts and on the right bank areas. Furthermore, such dirt and laterite roads are usually underserved, if they are served at all, by public transport: "*In an emergency, I can't take a taxi or a motorbike, because there is no road to my house. The one that used to be there has already fallen into disrepair, so now, to reach the paved road is a real challenge,*" as one woman who manages a bar and lives in Nylon Tergal put it.

The time taken to reach the public transport getting-in point is considerably higher for households in isolated districts and for residents of the right bank and, to a lesser extent, for those living in the outermost areas: "*For example, to go out, there aren't any taxis and there aren't any motorbikes. So you have to walk 2 kilometers to find a taxi*" (32-year-old single woman who lives in Kotto Village). On average, members of poor households walk for 16 minutes to catch a taxi or light truck if they live in an isolated district or on the right bank, versus 6 minutes if they live in an accessible area (the walking times are 14 minutes and 5 minutes, respectively, in the case of non-poor households). Thus, 56 percent of the poor have to walk for at least one quarter of an hour and 15 percent of the poor living in isolated districts have to walk at least a half hour to reach public transport. On the right bank, the rates are comparable: 54 percent and 22 percent, respectively. The situation is much better in accessible areas, but even then, in 15 percent of poor households people must start out by walking for more than a quarter of an hour.

Conclusion

Access to the transport system is more difficult for residents of isolated districts and the outermost areas of the city. In these areas, access conditions are slightly worse for the poor than for the non-poor.

2.2. DIFFICULTIES ASSOCIATED WITH WALKING

Walking is a means of travel in itself, but it is also in many cases a means of reaching mechanized transport, sometimes at quite a distance: "*I regularly walk part of the way* [to go to work in Deïdo] *because of the condition of the roads, which are all unpaved, and for the rest of the way I take a taxi*" (30-year-old single woman who lives with an uncle in Logbessou). Walking is done by virtually all city dwellers. Yet, "*the city is not favorable for walking*" (52-year-old man who has lived in Douala since 1977) and, quite clearly, the conditions for pedestrians are not always easy.

A variety of obstacles

Survey respondents were asked to select up to three impediments from a list of eight:

- obstruction of sidewalks,
- lack of sidewalks or sidewalks in poor repair,
- poor condition of roads,

- lack of lighting,
- risk of road accidents,
- risk of assault,
- bad smells, garbage, filth;
- poor condition of drainage systems.

The first three choices are problems that are directly related to the condition of the road system, while the other five deal with broader problems associated either with the risks incurred by pedestrians (accidents, assault) or problems relating more generally to the environment in which pedestrians travel (lack of lighting, lack of sanitation, and the dilapidated condition of drainage systems, the sides of which are used as pedestrian pathways). Survey respondents cited 2.6 problems on average.

The responses are relatively scattered, perhaps because the problems tend to build on each other, as in this statement by a married man who works as a hawker at the central market and lives in Logbaba Plateau: "*The roads and the climate make walking difficult in Douala and there is a risk of accidents, because the sidewalks and roads overlap. At night, walking means there is also a risk of being assaulted.*" Overall, the two impediments cited most often concern the obstruction of sidewalks and the poor condition of the roads, followed by the unsanitary conditions of public spaces and the lack of lighting at night (see Table 2). Among non-poor city dwellers, the problem of unsanitary conditions appears to be relatively less of an impediment, since it is cited less frequently than the lack of lighting at night and the poor condition or lack of sidewalks. Among the poor as well, the lack of lighting and the poor condition or lack of sidewalks are not simply marginal concerns, as they are cited by 30 percent of poor individuals.

Table 2: Percentage of poor and non-poor city dwellers citing various types of impediments to walking

	Poor	Non-poor
Obstruction of sidewalks	45	43
Poor condition of roads	43	51
Bad smells, garbage, filth	41	32
Lack of lighting at night	35	41
Lack of sidewalks or sidewalks in poor repair	32	35
Risk of road accidents	28	20
Risk of assault	24	29
Poor condition of drainage systems	15	16

The items are ranked in decreasing order of frequency of mention by the poor.

Problems directly related to the road system appear to play a central role in the difficulties experienced by city dwellers, as this statement by a 47-year-old male schoolteacher who lives in Nylon summarizes well: *"Walking isn't easy because the sidewalks are not well built and the roads are full of vehicles."* The impediments caused by deficient infrastructure are usually included among the problems cited by city dwellers (84 percent of the poor cite at least one of the three response

items most closely related to the road system). In particular, the inadequacy of sidewalks, which are areas theoretically reserved for pedestrians, impedes pedestrian traffic for nearly two-thirds of the survey respondents when either the condition of the road system or the problems concerning the environment in which pedestrians travel are taken into account, and 13 percent of poor city dwellers (15 percent of the non-poor) cite both of these aspects.

Poor sanitation, unlit areas, difficulty walking alongside the drainage systems, the risk of accidents or assault, and problems related to the poor quality of the urban environment are also very real: 88 percent of the poor cite at least one environmental impediment among the items chosen. A comparison between the number of problems related to the environment and the number related to the road system clearly shows a split diagnosis between causes of a different nature. For 50 percent of the poor (45 percent of the non-poor), environmental impediments are cited more often than problems related to the road system, while the opposite is true for 37 percent of the poor (40 percent of the non-poor). But city dwellers see a link between these two dimensions of the problems. In 70 percent of the cases, respondents cite the road system aspects and the more general environmental aspects simultaneously as constituting obstacles for pedestrians.

The environment of the place of residence is a determining factor in the difficulties encountered…

Inasmuch as pedestrian mobility first occurs in areas close to home, it is hardly surprising that opinions vary widely depending on the place of residence (see Table 3). Both poor and non-poor residents of accessible districts attach much greater importance to the issue of sidewalks (obstruction of sidewalks and the poor condition or lack of sidewalks). They are also more sensitive to the risk of accidents and to the lack of sanitary conditions in public spaces. On the other hand, inadequate lighting at night, the risk of assault and the poor condition of the drainage systems are considered to be less important problems for them.

Residents of isolated districts stress two main problems, the issue of lighting and the poor condition of the roads, as well as, in the case of poor residents, the problems of unsanitary public spaces and the risk of assault. During the interviews, the risk of assault was often linked to the lack of lighting, as noted by a 27-year-old man who lives in Nyalla: *"Walking isn't safe, first of all because the whole city isn't illuminated."* But in these areas, where pedestrians sometimes use the sides of the drainpipes instead of the failing roads, the difficulties to walk, although cited less frequently than other problems, are still a much greater problem than in the accessible districts (+ 19 percentage points for the poor and + 12 percentage points for the non-poor). For both the poor and the non-poor, the issue of sidewalks appears to be very secondary in isolated districts, perhaps because sidewalks require that the land first be formally divided into lots and that roads be mapped out, which is far from certain in the unplanned "spontaneous" neighborhoods. The risk of accidents is also viewed as a less

acute problem because of the condition of the roads and the low traffic volume in outlying districts.

Table 3: Percentage of poor and non-poor city dwellers citing various types of impediments to walking, broken down by type of district

	Accessible districts		Isolated districts	
	Poor	Non-poor	Poor	Non-poor
Obstruction of sidewalks	52	52	29	24
Poor condition of roads	42	50	45	53
Bad smells, garbage, filth	43	37	34	23
Lack of lighting at night	30	35	48	54
Lack of sidewalks or sidewalks in poor repair	35	40	24	25
Risk of road accidents	31	23	20	14
Risk of assault	20	21	32	44
Poor condition of drainage systems	9	12	28	24

When districts are ranked by their distance from the city center, the results are also contrasted, even though, when all is said and done, the small number of areas (and therefore the small number of districts) surveyed in the city of Douala means that the differences are not very robust and difficult to interpret. In each ring of the city, different survey areas would have produced different findings. Nevertheless, the problems cited seem to be consistent with the characteristics of the different areas (see Table 4).

Table 4: Percentage of city dwellers citing various types of impediments to walking, broken down by distance from the city center

	Center	Inner ring	Outer ring	Right bank
Obstruction of sidewalks	51	54	35	24
Poor condition of the roads	45	40	44	58
Bad smells, garbage, filth	51	34	36	33
Lack of lighting at night	30	25	43	64
Lack of sidewalks or sidewalks in poor repair	32	36	31	27
Risk of road accidents	37	28	15	15
Risk of assault	27	19	28	32
Poor condition of drainage systems	7	16	28	11

Thus, in the city center, the issue of obstructed sidewalks (here, more than in other parts of the city, pedestrians must coexist with vendors and parked cars) and the problem of unsanitary conditions (in this dense area, public areas are more "anonymous" and residents are less likely to"take them over") are frequently cited, along with the risk of accidents, which is higher because of greater traffic volume. Conversely, in the outer ring and on the right bank, problems related to sidewalks are less often mentioned, perhaps because their absence is such an integral part of the landscape that this issue escapes attention. Thus, a 32-year-old single woman who lives in Kotto Village complains about

unsafe conditions for pedestrians, but doesn't mention the lack of sidewalks or pedestrian walkways except to say that *"the roads are too narrow, so, if you're on foot, you're not safe."* This results in a greater sensitivity to the poor condition of drainage systems when they are the only option for pedestrian traffic (in the outer ring) or else the poor condition of the roads (on the right bank), all the more so because the lack of lighting at night, frequently cited by residents, is a handicap for pedestrians.

... while travel practices and socioeconomic characteristics have little effect

These opinions are, however, largely unrelated to the travel practices of individuals. The fact of having to walk while carrying a heavy load (more than 5 kg) to reach public transport only marginally affects the type of difficulties encountered. Users of personal modes of transportation appear slightly to downplay unsanitary conditions and road safety, more often citing walking conditions to and from their vehicle. Similarly, the time spent walking on the day before the survey had little effect on the opinions expressed by city dwellers. The only notable exception is a heightened sensitivity to the condition of drainage systems, as opposed to sidewalks, on the part of individuals who had walked a long time. This is the same group of city dwellers already encountered in the analysis of the effects of the place of residence, who live far from the city center and are obliged to walk along the sides of drainpipes on part of their trip downtown.

In addition, there is little difference between the opinions of men and women. The hierarchy of obstacles that emerges is identical and the scale for women is only slightly narrower than for men. In contrast, when gender and employment status are considered together, disparities appear but are not very easy to explain (see Table 5). While non-working individuals fall very close to the average profile for the poor, pupils and students cite a little more frequently the issue of obstructed sidewalks and the problem of unsanitary conditions, and a little less frequently the poor condition of the roads and the risk of assault. Working women are more sensitive to the poor condition of the roads and the risk of assault, but less sensitive to the problems of unsanitary conditions and obstructed sidewalks, perhaps because some of them have a stake in the obstruction of sidewalks owing to their commercial activities. Moreover, both working men and women cite unsanitary conditions a little less frequently than those outside the workforce and students. Non-working men more often invoke the lack of lighting at night and the risk of assault.

Conclusion

Opinions about walking appear to be closely linked to the geographic location of one's place of residence, considerably less so to the socio-demographic characteristics of individuals, and practically not at all to the use of specific modes of travel. In particular, comparing the intensity of pedestrian activity on the day before the survey with the

opinions expressed about existing obstacles to travel on foot does not reveal specific needs of particular categories of walkers.

Table 5: Percentage of poor city dwellers citing various types of impediments to walking, broken down by gender and employment status

	Students (male and female)	Working women	Working men	Non-working women	Non-working men
Obstruction of sidewalks	44	39	47	43	48
Poor condition of roads	42	52	46	39	42
Bad smells, garbage, filth	43	35	37	43	42
Lack of lighting at night	32	34	38	36	41
Lack of sidewalks or sidewalks in poor repair	33	29	34	32	28
Risk of road accidents	25	28	28	28	30
Risk of assault	22	28	22	27	28
Poor condition of drainage systems	17	13	12	16	12

2.3. ADVANTAGES AND DRAWBACKS OF DIFFERENT MODES OF PUBLIC TRANSPORT

"To sum up, taxis are the best mode of transportation for me, and the one I use the most." The great majority of Douala residents over the age of 10 would agree with this statement by a 52-year-old man who travels seven kilometers every day to go to work. When city dwellers are asked to name the two forms of public transport that they themselves use most frequently, shared taxis are mentioned slightly more often than *bendskins*, while other forms are cited marginally (by less than 10 percent of city dwellers). Stated access to public transport is less frequent for poor city dwellers in isolated districts, particularly as regards taxis, while light trucks serve these areas more regularly (see Table 6).

Table 6: Percentage of city dwellers citing the two modes they use the most, broken down by respondents' monetary resources

	Shared taxi	*Bendskin*	Light truck	SOCATUR bus	Undeclared cab	Minibus
Non-poor	85	71	5	5	2	3
Poor	82	67	7	5	4	3
Poor living in isolated areas	*70*	*60*	*16*	*7*	*4*	*1*

The line totals exceed 100 percent because respondents could cite as many as two modes of public transport.

After having indicated the two modes of public transport that they use the most, all the household respondents over the age of 10 were asked whether they agree with the following nine statements for each of the two modes:

- It is cheap
- It stops near my home
- I don't have to wait too long

- I can get a ride anytime
- It takes me wherever I want to go
- It is fast
- I am not going to get into a road accident
- I feel safe from assault or theft
- I can carry my merchandise on it.

It is not surprising to learn that users of different modes have a very negative opinion of public transport (Figure 1). Non-users were not asked for their opinion, but it could be thought that non-use results in many cases from access problems in terms of money, spatial coverage and time. These problems do not lead us to think that this group could have very positive opinions with regard to these aspects.

Shared taxis: A quite negative overall assessment

Poor city dwellers who take shared taxis are far from unanimous about this mode of travel. Among users, positive opinions outweigh negative opinions on only a few of the characteristics: temporal availability, safety from accidents, and, especially, the opportunity to carry one's merchandise. There are also some advantages in terms of quality of service in comparison with other modes, for example, the fact of not "suffocating", and the comfort of travel: *"Taxis, because at least you don't tear your clothes getting in. In the light trucks, your clothes get torn"* (36-year-old man who lives in Nylon Barcelone).

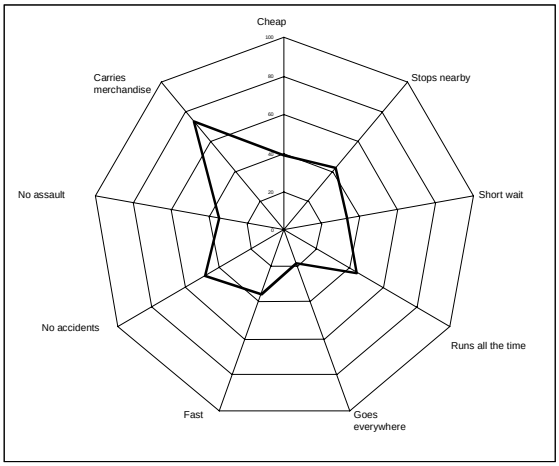
But, with respect to cost, proximity of loading points, speed, and waiting time, the negative opinions dominate, in some cases by a very substantial margin, for example as regards spatial coverage of the city. Indeed, taxis do not venture into all areas: *"The road is poor, and if a taxi comes here it might damage the vehicle, so we have to wait for a undeclared cab or else walk"* (hawker at the central market who lives in Logbaba Plateau). The waiting time can be very long: *"Sure, you might wait two hours for a taxi"* if, for lack of resources, *"you can't pay 300 francs when you've only got 150"* (33-year-old saleswoman who lives in Bonadibong). It is not surprising that residents of isolated districts systematically express more negative opinions about the quality of spatial coverage: only one household in twenty is satisfied with the proximity ofstop-offs.

Bendskins*: Real advantages, but a notable lack of safety*

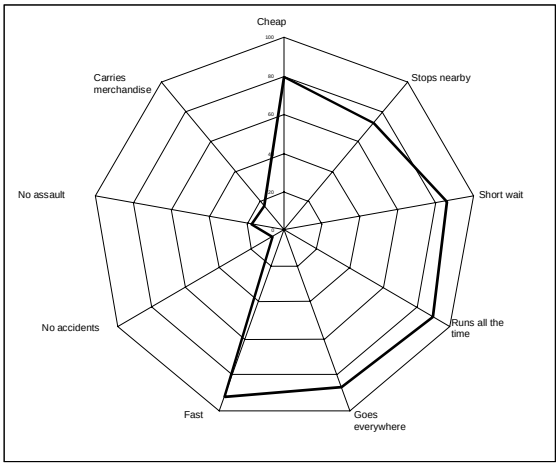
Cheaper per trip and more flexible in terms of spatial coverage, *bendskins* elicit much more positive opinions. In terms of cost, proximity of loading points, waiting time, temporal and spatial availability, and speed, this mode gathers the most favorable opinions (from at least three of every four poor city dwellers). Nevertheless, "Bendskins *are only good for short distances, especially to go into the neighborhoods"* (female fish vendor who lives in Bépanda Yoyong), because otherwise the price must be negotiated and can rapidly go up.

Figure 1: Percentage of poor city residents agreeing with the statements on transport, by mode of public transport

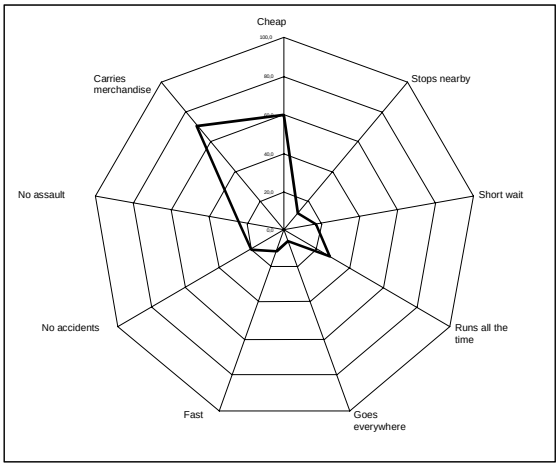
Shared taxi



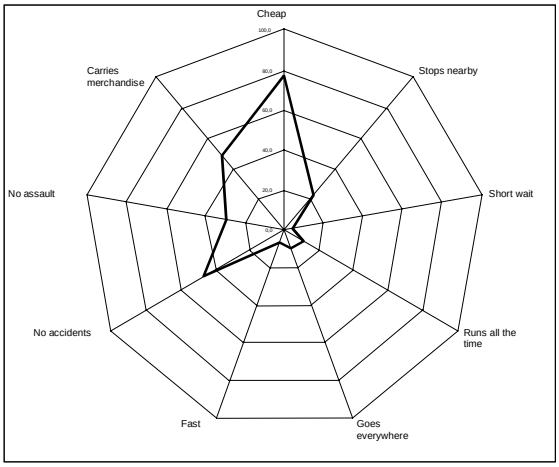
Bendskin



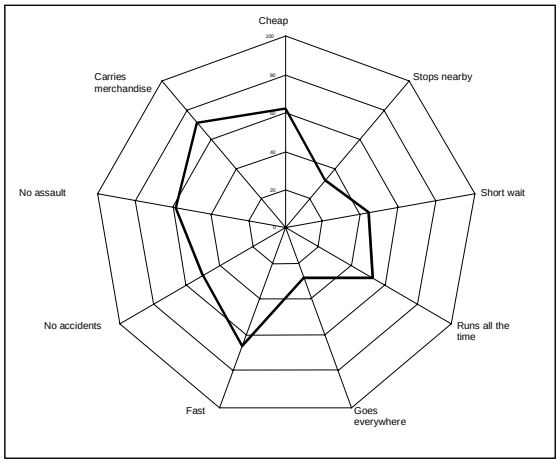
Light truck



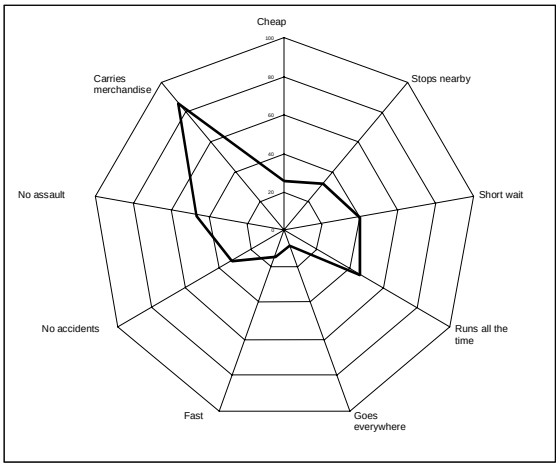
SOCATUR bus



Undeclared cab



Minibus



Key: with regard to the shared taxi, 39 percent of poor city residents agree with the statement "it is cheap" and 42 percent agree that "it stops near my home."

There is just one exception to the positive opinions about spatial coverage. Only 42 percent of residents of isolated districts agree that the getting-in point is close to home (versus 73 percent on average): *"Of course, from the house there is no paved road until you reach the main road, so it's rare to find motorbikes coming to wait for riders"* (29-year-old employed man who lives in Bépanda Petit Wouri). This is further confirmation of the heightened difficulties of access to public transport for city dwellers in isolated districts.

There is even greater unanimity in the opinion that the risk of accidents and the risk of assault are both high. As noted by a student (bachelor's level) who lives in Mbangue, "bendskins *cost less,*" but he then quickly adds, "bendskins *have smashed in more than a few faces.*" The two types of risk are often mentioned together: *"You can't trust bendskin drivers because they're aggressive and have lots of accidents"* (37-year-old carpenter who lives in Grand Hangar). Lastly, there are very few respondents who indicate that it's possible to transport merchandise on a *bendskin*.

Four less frequent modes of public transport

Of the remaining modes, undeclared cabs gather the most favorable opinions, even more so than taxis: they protect travelers from accidents and assault, permit the transport of merchandise, and are even considered fast and cheap by a majority of respondents. But there are few connections provided and, as a corollary, the stop-offs are far from home for many city dwellers.

The main advantage of the SOCATUR buses is their low fare, recognized by nearly four of every five poor users. For example, one 48-year-old unemployed man who lives in Makepe Petit Pays states that *"buses help us because they're cheaper, the price is good."* But he quickly qualifies his opinion: *"The problem is, they have old buses."* The quality of service is strongly criticized, especially inasmuch as the supply remains insufficient to provide satisfactory spatial and temporal availability, which contributes to overcrowding of the vehicles (*"You get pushed and shoved and then pushed some more. Anyone in fragile health could suffocate to death,"* in the words of a married worker who lives in Nylon Barcelone).

In comparison, minibuses are mainly recognized for providing greater frequency and permitting the transport of merchandise, but at a higher cost, while light trucks have the most unfavorable image, and they only raise a significant share of favorable opinions from the poor with respect to cost and the capacity to transport merchandise. But for city dwellers who live far from their place of work, squeezing into a light truck may be acceptable if they can save CFAF 100 compared to the cost of a taxi: *"I'm not close to the road and, when I get there, I have to wait for a light truck, as I was telling you. But the truck starts out from Kilometer Marker 10, so most of the time when I get there, it's already full, and we ride squeezed together like sardines to reach the city. Otherwise you have to wait, and it might be 10 a.m. before you catch a ride… But you know, the truck already costs 200 francs, which means that a taxi could cost 300 francs; by my calculations, if I allowed myself to take a*

taxi, I'd be broke by the 15th or 20th of the month" (bachelor with two brothers to support who lives in Bonadiwoto and works in Akwa as a cybercafé supervisor).

Widely shared opinions

It is hard to know whether opinions about the four less frequent modes of public transport vary substantially in accordance with the characteristics of individuals, for lack of sufficient numbers of respondents. On the other hand, it is altogether remarkable to note that the differences of opinion concerning shared taxis and *bendskins* are minimal when poor city dwellers are broken down into pupils and students, working women, non-working women, working men, and non-working men. Non-working men are a little less likely to consider taxis to be an inexpensive mode of travel. Working women, half of whom are self-employed traders, are a little more likely to see both *bendskins* and taxis as offering the capacity to transport merchandise, perhaps because professional constraints sometimes push them to seek resourceful solutions, although the extra cost may be significant: *"Sometimes, when I'm really loaded down, I take two bendskins, one to carry provisions and one to carry me and some of the food that I bought"* (woman merchant who sells products along the roadside in Bonanjo).

Conclusion

First of all, it bears repeating that these opinions are those of users of the various means of public transport. Therefore, they do not tell us why other city residents do not use them. Second, it should be noted that many city dwellers have a highly critical view of the supply of public transport available to them. The least regulated modes of public transport, undeclared cabs and especially *bendskins*, raise the least unfavorable opinions, although *bendskins* are very strongly criticized in terms of safety. These are also the modes that are most physically accessible in the eyes of residents of isolated districts, for whom access to the downtown areas is more complicated. Conversely, the supply of public transport from SOCATUR is appreciated from the perspective of cost, but not quality of service because the level of supply is inadequate.

More broadly, not all the public transport problems faced by Douala residents are the result of failings from the independent operators or the inadequacies of the SOCATUR supply, as all operators are "doing what they can with whatever they've got" in a disorganized context. The poor condition of roads limits spatial coverage, causes traffic jams, and makes travel even more unpleasant. The lack of monetary resources deprives city residents of a real choice between the different means of public transport and limits the operators' capacity to invest in vehicles.

3. ACCESS TO BASIC SERVICES

To understand the role that public transport plays in city dwellers' daily lives, we need to analyze the extent to which it provides or prevents access to various essential daily activities. We need to see if it provides access to housing, access to work for people with jobs or potential jobseekers, access to schools for school-age children, access to healthcare, access to essential supply points, such as markets and water points. We also thought it was important to analyze access to social networks. In a country with virtually no social security system, especially for the poor, the various forms of social contact developed by city dwellers are a means of ensuring their social integration and maintaining local support networks.

The various topics mentioned above will be presented below. In each case, we have tried to take the broadest approach to access problems, since public transport is only one of the many obstacles to access to all of these activities. Therefore, we shall try to rank the different problems that affect poor city dwellers so that the role that public transport plays can be accurately described.

3.1. ACCESS TO HOUSING: LOWERING HOUSING COST

Poor city dwellers are slightly more likely to own their home than their non-poor counterparts (55 percent versus 44 percent). In both groups, heads of home-owning households are quite a bit older on average than heads of households that rent their homes. Homeowners are also more likely to have lived in their current homes longer than renters, since the age at which renters and homeowners moved inis quite similar (see Table 7). This result probably reflects the greater difficulty faced by young generations to achieve home ownership, a phenomenon observed in various African capitals (Antoine et al., 2001).

Table 7: Head of household current age and age upon moving in, according to housing tenure and household income

	Poor			Non-poor		
	Current age	Duration in current home	Age upon moving in	Current age	Duration in current home	Age upon moving in
Owner	48	20	28	48	15	33
Rent-free accommodation	34	12	22	33	7	26
Renter	35	3	32	34	3	31

For the arrival in the current home, renters did not move as far as owners did: 58 percent of poor households renting their home arrived from the same district or an adjacent district, as opposed to 30 percent who arrived from another area in Douala. For homeowners, these proportions are much closer together, at

45 percent and 41 percent, respectively. The differences between homeowners and renters are even more pronounced among non-poor households, which also seem to be less attached to their district than poor households.

For homeowners, being able to afford their first home is the main reason for moving to a new district. This reason is cited by nearly two out of three poor and non-poor households. One of every five households mentions a related factor, the opportunity to live in an independent housing. The other suggested reasons are selected much less frequently: one of every ten poor households (and a slightly higher percentage of the non-poor) cites better housing or the quietness and safety of the neighborhood. Fewer still indicate that they wanted to be closer to or farther from family, closer to work, or even to schools. Finally, the quality of transport service is cited only very marginally, by fewer than 2 percent of poor households (but 6 percent of non-poor households).

Therefore, owning a home is an end in itself: "*Any sensible man dreams of having his own home. The reason I'm in Mabanda is because that's all I could afford, but if I weren't so poor I'd live somewhere else, away from this flood tide, all this mud. Just look, it's only by God's will that the children haven't yet died*" (father of six children who lives in the swamps of Mabanda). Because home ownership provides greater day-to-day security (even though it does not always include formal title to the property) and because it means no rent payments, it may warrant moving a long distance and changing districts. Ownership outweighs other potential factors when choosing a place of residence. The case of a 52-year-old, well educated man (two years of higher education) clearly illustrates this situation. In 1982 he had the opportunity to purchase a piece of land (offered by the father of one of his students) in Ndogbong Vallée, which led him to leave Bépanda New Style. Twenty years later, he still has no land title, but he is glad that "*being in my own home means that I spend less than when I was renting.*"

The situation is different when city dwellers move to a new location but remain renters. In poor households, the prospect of paying a lower rent is the primary reason for choosing a neighborhood, followed by better housing (see Table 8). Being closer to family and friends is the third most frequently cited reason in poor households (it is cited twice as often as the wish to be farther away), and it is mentioned slightly more often than the wish to be closer to work. On the contrary, non-poor households favor a certain distance, perhaps to discourage solicitations, especially monetary, from family and friends. As in the case of owners, better transport service is only rarely cited, by fewer than one of every twenty poor households and fewer than one of every ten non-poor households. The poor thus appear to be less concerned than the non-poor with improving their transport conditions when they move to a new location, seeking instead to reduce the direct cost of housing in order to lessen the weight of this item in their household budget. Yet, in some cases, the upshot is an increase in travel expenses, as noted by one 30-year-old seamstress, a single mother, who left the Brazzaville district for Ndogpassi to lower her rent and who finds that: "*I spend more on transportation here because in Brazzaville you can get around on foot and walk to the central market. That's not true here because it's too far.*"

Table 8: The main reasons cited by poor and non-poor tenant households for choosing their current place of residence

	Cheaper rent	Better housing	Closer to family	Closer to work	Quiet, safe district	Not a choice	*Better transport*
Poor	41	31	19	16	11	13	*4*
Non-poor	36	36	*7*	22	15	11	*9*

Conclusion

The choice of place of residence is subject to major constraints for home owners and renters alike. The main constraints are financial, but other factors come into play, leading some 10 percent of poor households (12 percent of non-poor households) to feel that they had no choice in where to live. Becoming a homeowner or paying less rent largely outweigh other factors in choosing where to live, specifically those that relate to transport conditions (closeness to work or even to school, quality of transport service).

3.2. WORKING: THE DAILY OBSTACLE COURSE

When times are hard, getting to work is more difficult, and yet even more crucial. Even though sources of income other than work, such as income from property and gifts, were significant in the survey, income derived directly from work accounted for 78 percent of poor households' income and 87 percent of non-poor households' income. Yet, in poor households, each working person supports 2.3 other members (unemployed, pupils and students, housewives, other economically inactive members). This figure is only 1.3 in non-poor households, despite the similar number of working members in each type of household (1.7 and 1.6, respectively). In more general terms, access to employment seems to be more of a problem in poor households than it is in non-poor households for the members of working age: for example, in the 15-to-65 age group, the ratio of non-working members to working members is 0.9 in poor households, as opposed to 0.6 in non-poor households, and the ratios are 0.5 and 0.3 respectively for the narrower 25-to-55 age group. Poor households are therefore larger,[2] but there are also proportionally fewer economically active members in the age groups most likely to work.

Among the working poor and non-poor alike, only salaried earners work predominantly "in town" (see Table 9). The use of public transport to go to work is less frequent in the informal sector than among salaried earners, both because of the greater proximity between place of residence and place of employment and because of a frequently lower income level (see Table 10).[3] The use of public transport results in long travel times (an average of 33 minutes one-way), and a

[2] This finding largely hinges on the method of classification used. It is clear that classifying households on the basis of per capita income (the method used here) leads to overrepresentation of large households among poor households, and small households among non-poor households.

[3] Ninety-five percent of workers say that the mode of travel (or combination of modes) they generally use to come home from work is the same as the one they generally use to go to work.

quarter of the workforce takes at least three quarters of an hour to reach their workplace (see Table 11). This can be explained by a combination of factors: long distances, traffic jams at peak periods, time waiting for the vehicle, walking segments at the beginning or end of the trip, both on the way to work and on the way home. The difficulties appear to be substantially greater for the working poor: if they work "in town" (outside their district of residence and the adjacent districts), they are much more likely to have to walk to work (31 percent versus 13 percent of the non-poor) and they spend much more time on the trip (respectively 34 minutes versus 23 minutes to go from home to work).

Table 9: Place of work for working poor and non-poor according to occupation (percent)

	Working poor				Working non-poor			
	Itinerant	Home	Nearby	In town	Itinerant	Home	Nearby	In town
Salaried employee, modern sector	0	0	20	80	0	0	15	85
Salaried employee, informal sector	0	1	36	63	0	0	28	72
Self-employed	6	25	39	30	2	18	29	51
Wage earner	17	7	25	51	17	6	31	46
Unpaid	3	7	53	37	-	-	-	-

"Nearby" means in the home district or adjacent districts, "In town" means the rest of the city.

Table 10: Mode of transport used to go to work for working poor and non-poor according to occupation (percent)

	Working poor			Working non-poor		
	Walking	Public transport	Other	Walking	Public transport	Other
Salaried employee, modern sector	34	57	9	10	78	12
Salaried employee, informal sector	45	55	0	32	58	10
Self-employed	66	34	0	43	55	2
Wage earner	53	45	2	48	48	4
Unpaid	67	33	0	-	-	-

Table 11: Commute times according to mode of transport for working poor and non-poor (average time in minutes and percentage of users taking more than 30 minutes)

	Working poor				Working non-poor			
	Walking		Public transport		Walking		Public transport	
	Average time	>=30′	Average time	>=30′	Average time	>=30′	Average time	>=30′
Salaried employee, modern sector	24	40%	31	52%	13	0%	34	58%
Salaried employee, informal sector	22	35%	28	56%	21	27%	30	50%
Self-employed	14	16%	32	40%	14	14%	32	47%
Wage earner	29	39%	41	61%	17	23%	45	54%
Unpaid	24	44%	27	50%	-	-	-	-

Yet, the ability to travel downtown generally means accessing higher paying jobs. Thus, the income of self-employed traders increases by an average of three quarters when they work "in town" rather than in their district of residence (and even by 87 percent in the case of the poor). Access to the city does carry a cost, of course, but the increase in income more than offsets it. Using the same example of poor self-employed merchants, we see that average "net" income, after subtracting transport costs, is still 78 percent higher if they work in the city center. Of course, this is only an average figure and some working poor, especially those who do not contribute to the household expenses, sometimes find themselves spending a very large share of their income on travel to and from work: one female cashier who lives at PK12 and works in Akwa takes two taxis each day, often must negotiate the price to be sure to arrive on time, and says she spends roughly CFAF 1,000 per day, on a monthly wage of just CFAF 25,000. But not all city dwellers can surmount the difficulties of transport and some must therefore remain in their neighborhood, as in the case of a 30-year-old seamstress who lives in Ndogpassi 2 and expresses the following regret: *"If not for the problem of transportation, I'd go to the central market like everyone else to sell my fabrics to customers."*

Conclusion

Whether they rely on walking alone or deal with the inconveniences of public transport, for working men and women in Douala hardship seems to be the common denominator of many trips between home and work, a finding that clearly emerges from the qualitative interviews with members of the workforce. Access to public transport is often a struggle, according to a young supervisor employed at a cybercafé: *"When I get up in the morning, I've got to approach the day like a great warrior, because there aren't any means of transport running in the streets,"* **and this may deter some from working downtown, despite the expectation of greater income.**

3.3. SCHOOL: RECOURSE TO THE PRIVATE SECTOR FOR LACK OF A BETTER OPTION

In poverty reduction strategies, access to education plays a key role because, over time, education is a way to develop individual skills and capabilities. In Douala, children's access to primary school appears to be universal, which matches the findings of recent surveys (CAVIE, for example): among the youngest age group (6 to 9 years), the stated enrollment rate in poor households is only slightly lower than in non-poor households, and the gap even disappears for the age group of 10 to 13 years, but then widens a bit for the age group of 14 to 21. "Full enrollment" comes a little later in poor households and disappears a little earlier as well, but, as far as access to education is concerned, household income does not appear to be as much of a discriminating factor as might be expected. Moreover, school attendance is steady: on weekdays (Monday to Friday), from primary through secondary school, only 5 percent of students are absent from school. It is true that the survey was conducted shortly after the start of the school year, and the attendance rate is likely to go down during the year. But most importantly, these figures should not mask the difficulties of access to the school system, the operational difficulties of the system, and the costs associated with school enrollment, as shown in many examples from both primary and secondary education.

Primary school: Are public schools too far away and private schools too expensive?

For the children of poor households, school access difficulties stem mainly from the insufficient supply of public schools: *"There aren't any public schools here, only private schools"* (27-year-old woman who lives at PK12). On the other hand, private schools are legions: *"We have some private schools in the neighborhood, but no public school"* (35-year-old man who lives in Nylon Tergal); *"There are many private schools in the neighborhood, but the public school is pretty far away"* (45-year-old fish vendor who lives in Bépanda Yoyong). Unlike private schools, most of the public institutions attended by children are thus located outside their district of residence.

Schoolchildren from poor families, even more than those from non-poor households, typically walk to school, sometimes covering long distances (see Table 12): 22 percent of poor schoolchildren enrolled in public schools and 13 percent of those enrolled in private schools must walk for 30 minutes or more, which means a total walking time of at least one hour per day, and the walking conditions are often difficult. But before the issue long walking distances even arises, access difficulties first emerge in terms of the opportunity (or lack of opportunity) to enroll one's child in school.

Table 12: Travel time (minutes) to primary school and percentage of households in which children walk to school

	Poor households		Non-poor households	
	Public school	Private school	Public school	Private school
Time (minutes)	20	15	14	15
Percent walking	99	93	91	84
Percent walking more than 30 min	22	13	13	7

The operational problems of the school system (particularly the public school system) revolve around the inadequacy of the resources available to schools in comparison to needs. To enroll as many children as possible, two sessions have been instituted, so children attend school only in the morning or in the afternoon. The insufficient number of public primary schools is clearly the reason why two-thirds of the children in primary school attend private institutions (70 percent in the case of non-poor households, and even 62 percent in the case of the poor). Although the cost of enrollment in private schools remains moderate in some cases, this fairly generalized reliance on a system that is not free, even when the household's financial resources are low, clearly shows the lack of existing alternatives within the public school system. Among the reasons given for not using public schools, the poor quality of service (no space, overcrowded classes, lack of staff and supplies, etc.) is the problem most often cited (by 48 percent of the poor households). But access problems (too far from home and/or too expensive owing to the cost of transportation) are also frequently mentioned, by one of every three poor households.

Although private primary schools provide basic education to the majority of children from poor households, this does not mean that the cost of school enrollment is painless. Among the obstacles to private school enrollment, the issue of cost is cited by 44 percent of the poor households who use private schools (versus 32 percent of the non-poor). Poor households that do not use private schools are even more likely to raise the issue of cost (two of every three households), suggesting that the financial obstacle substantially outweighs the problems of accessibility (7 percent) and poor quality of service (also 7 percent).

Secondary school: Obstacles to the enrollment of poor children

At the secondary level, where private institutions again account for half of all enrollment (even a little higher among poor households), students also walk to school in most cases, although in a lower proportion than in primary school (see Table 13). Walking is more frequent among children from poor households and all the more if they attend private schools: 84 percent in the case of poor households versus 56 percent among the non-poor. In the case of public schools, these figures are 71 percent and 65 percent, respectively. Secondary school students from poor households thus face more difficult access from two points of view. First, they use public transport a little bit less, and a household vehicle substantially less, to reach school; second, the time they spend walking is slightly

longer (28 minutes versus 23 minutes for members of non-poor households) and they are more likely to walk for more than 30 minutes to reach their school.

Table 13: Travel time (minutes) to secondary school and percentage of households in which students walk to school

	Poor households		Non-poor households	
	Public school	Private school	Public schools	Private school
Time (minutes)	29	27	25	22
Percent walking	71	84	65	56
Percent walking more than 30 min	37	33	25	20

Between the first (*collège*) and second (*lycée*) cycles of secondary education, the frequency of walking declines. This is chiefly due to an increase in the use of public transport (taxis more frequently than bendskins, although the use of bendskins is more frequent among poor households). Personal modes of travel appear only marginally, even in non-poor households. But the use of mechanized modes of travel has a cost, and students are still less likely to avoid walking on the return trip home (see Table 14). This trend is more pronounced among non-poor households, although their children travel under slightly better conditions both on the way to school and on the way home. In any event, the desire of parents to reduce the extra costs of education imposes on their children a substantially longer trip when they return home on foot: it then takes nearly two and a half times longer than the trip on the way to school.

Table 14: Percentage of walking in trips between home and secondary school, by direction of travel and school level

	Home to school	Return trip home
1st cycle (*collège*)	79	83
2nd cycle (*lycée*)	64	72

Here again, as regards use of the public school system, the poor quality of service is the obstacle cited most often (by one of every two households), ahead of the problems of accessibility mentioned by more than one third of the households. With respect to private secondary schools, the issue of cost is again foremost, cited much more frequently than problems of accessibility and quality of service. Finally, at both the primary school and secondary school levels, poor households are less critical about quality of service. This problem is less of a concern because of the difficulties they face to enroll their children in school: poor households are more sensitive than non-poor households to school enrollment costs, as well as to accessibility problems.

School enrollment difficulties for children from poor households persist even after secondary school. To reach the University is difficult, and transport problems hinder attendance. As one student working toward his bachelor's degree and living in Mbangué with his mother and a nephew explains: *"Sometimes I miss several whole lessons because I can't make it there. There are no*

means of transportation to get me to the University. And this affects my grades, but what can I do?"

Conclusion

While household poverty does not appear to have too great an impact on enrollment rates, physical access to educational institutions seems to be more difficult for poor households: they are farther from school and their children are more likely to walk there. Access problems (distance and transport cost) appear overall as the second greatest obstacle to full school enrollment, the first obstacle is quality of service in public schools and tuition fees for private schools. Poor households have more school access problems than non-poor households do as a result of their less favorable practical circumstances. These access problems may have an impact on the educational success of children from poor households.

3.4. HEALTHCARE SERVICES: IS MODERN CARE A INACCESSIBLE LUXURY?

The residents of Douala make greater use of hospitals and clinics than nearby dispensaries and health centers. One quarter of households state that they never visit hospitals and clinics, while 30 percent of poor households (37 percent of the non-poor) do not make use of basic healthcare services.

Dispensaries and health centers: A level of supply that satisfies few

Nearby supply does not always mean close to home: *"I go to the dispensary in New Bell, which is really far away"* (36-year-old man who lives in Nylon Barcelone). On average, it takes 15 to 20 minutes to get there (see Table 15). Three times out of five, the closest public health center is located outside the neighborhood and therefore farther away than the equivalent private facility. Households that use a public health center thus spend more time getting there, on average, than those who use private facilities. This greater distance to public health centers contributes to their relative lack of appeal: among both poor and non-poor households, three quarters visit private facilities, while fewer than half visit public facilities.

Table 15: Travel time (minutes) and mode of travel to health centers (percentage of households), by level of household resources

	Poor households		Non-poor households	
	Public center	Private center	Public center	Private center
Time (minutes)	18	15	19	15
Percent walking	54	80	39	71
Percent walking more than 30 min	11	7	10	2
Percent riding PT more than 30 min	9	9	14	11

However, apart from distance alone, the supply of nearby healthcare arouses considerable dissatisfaction: 88 percent of poor households mention at least one problem in using public facilities, and 81 percent express some dissatisfaction with private facilities. As regards the public centers, the problem cited most often is the quality of service (mentioned by 68 percent of poor households), well ahead of accessibility (25 percent) and cost (9 percent). The order is different for private facilities: 51 percent of households still cite the quality of service, 36 percent mention cost and 8 percent mention accessibility. Among the poor, the cost of private healthcare is cited more often by users of public facilities (55 percent) and by those who do not make use of health centers (44 percent), while the cost of public facilities is more often mentioned by users of both types of facility (19 percent). Among poor non-users, 65 percent cite the quality of service of public facilities and the quality of service or cost (or both) of private facilities.

But the cost of services remains the key concern: *"The least expensive health center is in Mabanda. If you had to go to Bonassama, it would be to die there, period. If you showed up there with empty pockets, they'd look at you like you were some kind of statue"* (43-year-old man who lives in the business district of Mabanda); *"We all know how things work: when you go to a health center, if you haven't got any money, you're out of luck!"* (27-year-old unmarried resident of Bonadiwoto).

Public hospitals and clinics are used for lack of anything better

Contrary to the findings concerning the use of basic healthcare services, households turn preferentially to the public sector when they make use of hospitals and clinics. Fifty-six percent of households only visit public hospitals, 6 percent only visit private clinics, and 12 percent use both types (public and private). However, although the rate of use of public facilities is equivalent among the poor and the non-poor, this is not true of private facilities, which are used by one quarter of non-poor households but only 13 percent of poor households.

Walking to a hospital or clinic is rare, but it is more frequent among poor households (see Table 16), even though they usually live farther away from such facilities. Given that the distance from home is extremely long, few of them walk for more than 30 minutes to reach a hospital or clinic. One third of those who go

to a public center and half of those who go to a private one, must spend at least a half-hour in public transport. In the case of non-poor households, these rates drop to one of every four households.

Table 16: Travel time (minutes) and mode of travel to public and private hospitals and clinics (percentage of households), by level of household resources

	Poor households		Non-poor households	
	Public center	Private center	Public center	Private center
Time (minutes)	27	35	22	22
Percent walking	27	26	15	22
Percent walking for more than 30 min	6	17	3	0
Percent riding PT for more than 30 min	34	48	26	25

Despite the distance they must travel, households do not rank accessibility issues at the head of their list of concerns. As regards the two public hospitals, Laquintinie and l'Hôpital Général, the poor quality of service is condemned by both users and non-users. High cost is cited second most frequently, and more often by the poor than by the non-poor: *"Laquintinie and l'Hôpital Général are for serious cases, because you just assume it's going to be expensive"* (52-year-old man who lives in Ndogbong Vallée). Poor quality of service and high cost are both mentioned more often than problems of access. However, the farther they live from the city center, the more likely poor households are to criticize difficulties of access to public facilities: in the outer ring, 57 percent mention this issue versus 12 percent in the city center. Thus, one unemployed 48-year-old man who lives in the outer ring at Makepe Petit Pays goes where he's able to go, because *"It's the cost of transportation that drives the choice."* In the eyes of the poor, private facilities offer a better quality of service, but their high cost makes them even more inaccessible: nine of every ten poor households that do not visit private facilities do complain about their cost.

Conclusion

As regards access to modern healthcare facilities, the main obstacle for the poor is the cost of using such services, even when they turn to public facilities, as shown both in the interviews and in the household survey. Difficulties in reaching healthcare facilities and deficiencies in terms of quality of service further deter city dwellers from visiting such facilities, but their greatest concern is the cost of the service. This results in high rates of self-medication and recourse to traditional practitioners: *"When we're sick, we can be treated along the roadside or in the itinerant pharmacies. We have to practice self-medication for lack of financial resources"* **(35-year-old man who works as a bar manager and lives in Nylon Tergal).**

3.5. FOOD AND WATER: A BURDEN EVERY DAY

Access to markets and drinking water supply are the last part of this overview of the use of basic services and everyday problems.

The market, where goods are too expensive

Food purchases are generally made at a market, either a neighborhood market if one exists, or else a market in an adjacent district, and more rarely at the central market, where clothing and less common consumer goods can also be purchased. In contrast, supermarkets are used very little and barely seem part of the range of choices available to poor city dwellers: *"A supermarket? And just who would I be trying to find there? That's out of my reach!"* (a 37-year-old man who lives in Grand Hangar and "gets by" as a carpenter).

The market is not always nearby: 56 percent of households go to a market outside their area of residence. Thus, for one household with seven children living in Ndogbong Vallée, *"the closest market is in Cité des Palmiers and the next closest is in Cité SIC. The market in Cité des Palmiers is 3 kilometers away, and the one in Cité SIC is 3 or 4 kilometers."* Yet walking is the mode of travel most often used to go to market by both poor and non-poor households (see Table 17). *Bendskins* are used more than taxis: 12 percent of poor households use the former while only 3 percent use the latter (versus 19 percent and 8 percent, respectively, in the case of non-poor households). Reliance on walking decreases as the distance increases, but two-thirds of the poor still walk to the market even when it is far away, versus 47 percent of the non-poor. As a result of their reduced use of mechanized modes of travel, poor households spend, on average, a little more time than non-poor households to reach the market, and more than one of every five poor households walks for more than 30 minutes, versus one of every ten non-poor households.

The most frequent criticism of the markets visited by households concerns the high cost of the products sold there (cited by 33 percent of the poor and 24 percent of the non-poor), with accessibility problems mentioned by just 13 percent and quality of service by 11 percent of both poor and non-poor households. The neighborhood market is often considered more expensive than better-stocked markets located nearer the city center, but the time required to reach these markets, and especially the cost of so doing, deter many city dwellers. Thus, the head of household living in Ndogbong Vallée who is quoted above explains: *"Sure, it's expensive! But if I do a little figuring, I can say it's better to pay 200 francs for something here than to take a taxi and go buy it in Akwa for 50 francs, because in the end, with the cost of transportation, it will turn out to be very expensive."* Indeed, his wife walks to the market in Cité des Palmiers almost every day.

Table 17: Travel time (minutes) to markets and percentage of households using walk as mode of travel, by level of household resources

	Poor households	Non-poor households
Time, all modes (min.)	18	15
Percent walking	84	69
Percent walking for more than 30 min	22	10

A substantial number of households frequent the central market: 26 percent of the poor and 18 percent of the non-poor. These users are in fact highly critical, even more so than those who frequent small markets. The central market seems expensive to 41 percent of poor users (and 31 percent of non-poor users), while problems relating to quality of service (filth and mud, on the one hand,[4] and jostling and theft, on the other) are cited by 29 percent of the poor (and 25 percent of the non-poor). Lastly, difficulties of access to the central market are mentioned by only 12 percent of poor households (but 21 percent of the non-poor). In most cases, however, the central market provides a back-up service, offering products that are not available elsewhere. Thus, one 25-year-old Mbangué resident, speaking about his wife, explains, "*Sometimes, at the end of the month, she tries to go to the big place, the central market downtown. But only once a month. During the week, since we don't have a freezer to keep food, we do our marketing everyday, for tomatoes, fish, whatever. It's every day of the week, but right here in the neighborhood.*"

Potable water supply, a burdensome task

Direct, private access to water is rare in Douala, and particularly so among the poor. Only 9 percent of poor households have water piped indoors, versus 25 percent of non-poor households. For households that have no indoor tap the distances that must be covered to obtain water can be very great: 18 percent of poor households have to travel more than 500 meters, and 30 percent must get their water 100 to 500 meters from home. In addition, some households that do have water piped indoors only use it for drinking so as to minimize the impact on their budget. This means that they must diversify their modes of supply: "*I go over to my neighbors' house and draw water from the well to wash clothes, and I only use the SNEC water for cooking and drinking*" (five-person household living in Bépanda Omnisport).

The time required to reach the supply point is greater in isolated areas, both for poor households (11 minutes versus 8 in accessible areas) and the non-poor (9 minutes versus 6). In isolated areas, where inhabitants are more likely to depend on distant boreholes and dug wells, 38 percent of poor households which are not connected to the water system take at least a quarter-hour to reach the potable water supply point, versus 28 percent in the more accessible areas. Difficulties for access to potable water clearly shows the cumulative effect of financial and spatial problems. The poor households the most heavily penalized

[4] This problem was also mentioned in interviews with women merchants who work at the central market.

are those that have no indoor tap and live either on the right bank or in the outer ring of the left bank. It takes them 15 and 13 minutes, respectively, to reach the supply point, versus 5 minutes in the city center and 6 minutes in the inner ring: *"There's spring water, way over there, at the very end, so we go all the way, and it's at least 2 kilometers"* (ten-person household living in Makepe Petit Pays).

This chore, which is frequently repeated, on a daily basis if not several times per day, generally falls to the same persons in the household, typically those outside the workforce, i.e. women more than men and children more than adults: *"We always go to the standpipe. That means we have to leave very early in the morning, because the line is really, really long. This job is up to me or my younger brothers, usually it's the younger brothers. Either when they get home from school or very early in the morning before school, but to avoid the morning delays we always go the night before"* (27-year-old bachelor who supports two of his younger brothers and lives in Bonadiwoto); *"Every day the kids go fetch water at the well"* (43-year-old man who lives in Ndogpassi 2). The task of water supply weighs heavily on time budgets, especially considering that the average times presented here refer to how long it takes to go from the residence to the water point. Thus, they give only a partial image of the amount of time actually taken during a day, which includes the time of the activity itself (waiting at the water point and either drawing or purchasing the water[5]), as well as the time it takes to return home. Records of trips from the previous day indicate in fact that, on average, the duration of the return trip is 12 percent longer. However, households attempt to reduce the pressure on their time budgets. If the time needed to reach the water point is greater than 15 minutes, they are almost three times less likely to fetch water on a daily basis than if the time is less than five minutes. A borderline case can be found in the example of a four-person household living in Bonanjo, where the wife (36 years old, with an unemployed husband) travels *"1.5 or 2 kilometers to Brasseries to draw water, but just once a week, because I have a 60-liter barrel and cans of various sizes. I draw drinking water for four people, a total of 100 to 120 liters, and then I have it hauled by handcart."* The task of water supply is thus minimized, and the time savings are substantial, but at the price of an additional monetary effort which more than doubles the cost of drinking water: *"1,200 francs for a week's supply of water: 500 francs to draw the water and 500 to 700 francs to get it home."*

Conclusion

Access to food and water are basic necessities. Poor households try to reduce the number of trips for food and water, especially when the point of purchase is far away. But the lack of refrigeration and, more importantly, money, means that poor households cannot stock up and must often shop for food every day. Consequently, they often have to pay higher prices than more affluent households do. The need to fetch water every day makes great demands on the time of women and children, who are more likely to be given this chore than adult men are.

[5] The prices cited in the interviews are usually CFAF 10 per 10-liter bucket, but in some cases they may climb considerably higher, to CFAF 15 or even CFAF 25.

It hinders their ability to undertake gainful activity or disrupts their education: *"We use water drawn from a well. In the morning, the child goes to school, but first he draws the water, then I wash up, I go to the market, and then I start cooking"* **(35-year-old woman who lives in Bonanjo and "gets by" by selling doughnuts).**

3.6. STAYING IN TOUCH: SOCIAL INCLUSION IS FRAGILE

Various studies have highlighted the critical importance of a support network of family and friends for those living in poverty. These networks improve personal prospects for finding a job or casual labor, provide support in a crisis, or simply to help "make ends meet" on a day-to-day basis. These trends are of course impeded by the permanence of the crisis, which leads to individualization of practices (Marie, 1997). Nevertheless, as in other African cities (Diaz Olvera et al., 1998), the analysis of mobility (presented in the following chapter) shows the importance of visits in Douala. Social contacts are the reason behind 24 percent of trips during the week and 39 percent on Saturdays (and probably an even higher proportion on Sundays). Even though social contacts are not kept up for strictly practical motives, they do help maintain social integration.

The qualitative interviews clearly show that city dwellers, poor and non-poor, are aware of the importance of social integration, that it be the family or any other group. As a 36-year-old working man who lives in Nylon Barcelone explains in detail: *"I have this one friend that I trust and who trusts me as well, and he's the one I can borrow things from, except he's not always available and he tells me that sometimes he has problems. Yes, yes, I have a friend, a childhood friend, that I'm very attached to and that I visit at least once a week, no matter what. If he doesn't see me coming around, he comes looking for me. We keep in close touch and, if I fall sick, for example, or if I have money problems, he helps me out, so that's why I stay in touch."*

The high frequency of visits and, more generally, the reasons for making social trips need to be seen in the light of the important role that "gifts" play in the "economy" of poor households. In Douala, for example, more than one in every two poor households (52 percent) have at least one member receiving monetary gifts from a person outside of the household. All in all, monetary gifts account for 10.5 percent of poor households' total income and 6.7 percent of that of non-poor households. Many poor households count greatly on this source of income, which, for more than one of every five poor households, accounts for more than 20 percent of total household income (see Table 18).

Table 18: Proportion of poor and non-poor households' income from gifts

	Poor	Non-poor
0 – 5%	60	67
5 – 10%	9	12
10 – 20%	10	11
20 – 30%	8	3
30 – 50%	7	5
> 50%	6	2
Total	*100*	*100*

How closely linked are poverty and a lower degree of social integration? Can specific forms of social contacts be found in poor population groups? What role do transport problems play in the problem of maintaining a social network? We cannot claim to address these issues fully, since our survey did not focus on the social life of Douala residents. In the household survey, however, some elements of social life were covered, such as participation in associations, the number of people who could provide help for individual respondents over the age of 10 years, the form or forms that this help takes, and some characteristics of the two main "help providers," such as the nature of their relationships to the respondent, place of residence, and relative income and age. Furthermore, examining mobility on the previous day makes it possible to compare the frequency of different forms of out-of-home social contacts on a statistical basis. Of course, these elements only tell part of the story: we do not know anything about people that the respondents might be helping, nor do we know anything about the people who come to visit respondents in their homes. We do know, however, that the "direction" of visits is not random: social "juniors" visit their "seniors," rarely the opposite. However, the qualitative interviews help to round out the statistical information about some of these various aspects by illustrating and providing explanations for the disparities noted in the figures.

Participation in associations: employment statuts counts more than income level

Poor city dwellers are less often members of associations than the non-poor. The disparity between the poor and the non-poor is greatest for informal rotating savings and credot associations (*tontines).* But this finding should be referred to the lower employment rates of poor populations. Indeed, among members of the workforce, the disparity is greatly reduced (see Table 19). In particular, among non-poor working women, membership in a *tontine* is by far the most common form of association (73 percent), which is also the case, albeit to a lesser degree, among poor working women (60 percent). It is also frequent among working men, though in lower proportions (59 percent of the non-poor and 44 percent of the poor), and in fact is more common than community associations and other types of associations (respectively 34 percent and 40 percent of the poor).

Table 19: Participation in associations by the poor and non-poor (percent)

	Poor	*Of which economically active*	Non-poor	*Of which economically active*
Community associations	21	*33*	*32*	*33*
Tontine	28	*52*	*62*	*64*
Other associations	21	*31*	*37*	*38*
At least one association	*45*	*70*	*76*	*77*

However, the boundaries between these different types of association are vague, and associations of rural emigrants, former classmates, etc. sometimes also

function as *tontines*, the common thread in all cases being to provide insurance in hard times: *"I go to meetings with the people from my village. They take place regularly right here in the neighborhood, and I go every time, especially because they're held on Sundays, a day when I don't work. In our meetings we also run a* tontine*, and everyone contributes in accordance with his means. Each week, everyone gives at least 1,000 francs to the* tontine *and whatever he can to the" bank". In good weeks, I give the "bank" as much as 5,000 francs. And if someone at the meeting has a problem, we help him at the rate of 500 francs per member"* (36-year-old male self-employed merchant who lives in Logbaba Plateau).

The preventive nature of these mechanisms aims to protect against risks associated with professional activities (mutual assistance with other merchants, other craftsmen, etc.) and income fluctuations, as well as to prepare for special or unexpected events within the circle of family and friends (illnesses and accidents, but also naming ceremonies, weddings, funerals, etc., involving close or distant relatives, professional contacts, or friends) All these situations oblige those with family responsibilities to be sure to maintain social relationships: *"I regularly go to the meetings. I belong to two* tontines *and I contribute 2,500 francs to each of them every month. I've already had to help one person who comes to my meetings who fell ill and had to be evacuated to Europe, and my contribution was 15,000 francs. But really I don't do this sort of thing often, because my resources are limited"* (47-year-old male schoolteacher who lives in Nylon Brazzaville).

The nature of the minimal protection provided by these associations is clearly shown in many of the interviews: *"We help each other out… occasionally, not everyday… we have a meeting of cooks, but I can't tell you the amount that I give. When somebody is sick, I see a mate who is ailing, and if I have 2,000 or 5,000 francs I give it to him, or even just 1,000 francs to help out… If somebody dies, we buy things, we take them, I buy something to honor the person in that way… because tomorrow maybe I'll be sick, and it will be my turn, and they'll have to help me out, so I have to pitch in, too"* (40-year-old man, a cook who lives in Akwa Bonabekombo). Sometimes, the goal is also to benefit from an opportunity to improve one's situation, for example through an association of former classmates: *"[I see] some of my old classmates because we get together once a month, basically just to renew the bonds that connect us… As I told you before, it's through this association that I could also find an opportunity. In other words, a classmate whose social standing is a little higher than mine might have an opportunity in his business and say to me, well, you know, with your skills…"* (27-year-old man who subsists on casual jobs and lives in Bonadiwoto). This may explain why, apart from the benefits of greater availability of cash, participation in associations is more common among working adults, often with family responsibilities, than other individuals.

Contrasting forms of sociability and association

Among poor city dwellers, participation in associations logically appears to be substantially lower among students, and higher among working women and men, for the reasons stated above (see Table 20).

Table 20: Participation in associations by the poor, broken down by employment status (percent)

	Community association	*Tontine*	Other association	*At least one association*
Students	6	3	11	*15*
Working women	33	60	32	*73*
Non-working women	21	34	21	*53*
Working men	33	44	30	*66*
Non-working men	28	10	22	*40*
Total	*21*	*28*	21	*45*

Additional light is shed by the analysis of the trip purpose of social related travel undertaken the previous day (see Table 21). Overall, poor men are more likely to travel for social reasons than poor women, and employment status also has an impact. Working women make the fewest trips, on average, for social purposes, mostly because of less mobility to meet with friends. Non-working women are in a similar situation, which seems to confirm the substantial impact of gender social roles on the behavior of women in Douala. Are they perhaps more "visited" than "visitors"?

Table 21: Participation by the poor in various social activities, based on mobility from the previous day (average for Monday through Saturday), broken down by employment status (percent)

	Visiting family	Visiting friends	Visiting neighbors	Attending a ceremony	Participating in an association	*At least one trip for social purposes*
Students	10	21	7	2	0	36
Workingwomen	9	11	8	3	8	35
Non-working women	16	15	7	2	6	39
Working men	14	27	5	3	4	44
Non-working men	12	35	10	7	2	52
Total	*12*	*20*	*7*	*3*	*4*	39

Among working women, the significant number of trips for associational purposes is related to their relatively strong involvement in this area. Students and non-working men and women, less frequently involved in associations, "catch up" in relative terms through other types of get-togethers: social contacts with friends and neighbors in the case of non-working men, and family visits in the case of non-working women. Lastly, students adopt a middle-of-the-road behavior, although social contacts with friends play a central role.

Social integration remains fragile

Social capital is likely to be converted at times into material assistance. In case of need, three quarters of the poor[6] can count on assistance from members of their circle of family, friends, and professional associates (see Table 22). They generally consider the financial circumstances of such persons to be better than their own. At first glance, this opportunity to resort to assistance appears to be slightly more widespread among the poor than among the non-poor. However, this does not mean that the social network of the non-poor isn't larger, on average, than that of the poor, since non-poor city dwellers may consider themselves to be in the position of "givers," not "takers." Moreover, the poor's network of "useful" relationships appears to be more centered on the family and a little less varied than in the case of the non-poor. Lastly, whatever the individual's standard of living, the resource person usually lives in some other neighborhood, so seeing this person requires travel.

Table 22: Number of persons providing help to poor and non-poor city residents and characteristics of the persons providing help (percent)

	Poor	Non-poor
None	24	29
One person	32	35
Two persons	24	19
Three or more persons	20	17
Of which: proportion of relatives *	64	57
Of which: proportion of friends *	31	34
Of which: proportion of other acquaintances (workmates, etc.) *	5	9
Of which: percentage living outside the home district of the respondent *	73	73
Of which: percentage with higher income than the respondent *	83	70

** Calculated for respondents reporting that at least one person can provide them with financial or material help or help them find work.*

However, to be assisted is always a fragile situation, especially in a context of economic crisis, which tends to suppress customary systems of social welfare by reducing the monetary resources available for such purposes. This in turn tends to limit the bonds of solidarity to one's closest relatives and friends and, particularly, those thought to be capable of "repaying" the assistance (Le Bris, 1996; Marie, 1997). In the words of one 27-year-old male former student who lives in Nyalla and is so far only a tutor (earning CFAF 17,500 per month): *"I receive financial assistance from family members, especially when I run into problems beyond my means (health problems, for example)."* A 35-year-old man who works as a bar manager and lives in Nylon Tergal summarizes this new situation perfectly: *"I'm helped a lot by my family, particularly since even the bar is family-owned, but outside the family I don't receive any other help. You know, society has become much more capitalistic, so it's everyone for himself."*

[6] Among poor city dwellers, the number of "resource persons" remains very stable when broken down by gender or by employment status.

Table 22 might thus be revisited but from the opposite perspective: one of every four poor city dwellers cannot count on assistance from anyone, and one of every three can count on only one person. The strong link between money and savoir-faire, to use the terms employed by Vuarin (1994), is not just a one-way relation. Individual participation in associations, which requires making regular or occasional contributions of funds, and the maintenance of extensive and useful social networks (linking individuals to better-off persons), which involves visits to one's "seniors" and thus entails time and money expenses, seem particularly complicated for those whose income is insufficient to meet their needs: *"I don't belong to an association because I can't afford to"* (23-year-old woman, a student at the Bonabéri secondary school). The poorest thus run the risk of finding themselves excluded from social networks; they are unable to claim their place for lack of money. And, speaking not just of the poorest, this inability to claim one's rightful place may cause poor city dwellers not to make certain visits: *"There are also some people in the family that I would like to see, but that I don't see because of an inferiority complex and lack of cash"* (47-year-old male schoolteacher who lives in Nylon Brazzaville).

Mobility: An essential component of sociability

The ability to travel around in order to maintain one's network of relations, show one's elders the respect they are due, take one's place at family meetings and gatherings of former classmates, city dwellers originally from the same village, etc., is thus vital. Correspondingly, travel difficulties and, in particular, the cost of transportation come up very frequently when the factors that tend to limit mobility for social purposes are discussed. Thus, the 23-year-old woman who is a student at Bonabéri secondary school, and who was quoted above as saying that she does not belong to any association, has this to say about simple visits: *"I go out mainly when someone invites me or when I have to visit a family member. I go out just four times a month, mostly because I don't have enough money."* Similarly, a 25-year-old night watchman who lives in New Bell indicates that he visits his family rarely because they live too far away: *"Yes, I have just one older brother, who lives in Logbaba. Well, cash is short and I can't afford to go all the way to Logbaba."*

Others attempt to maintain a minimum social network at any cost. Systematic recourse to walking is the first solution: *"Most of the visits I make are to my uncle and my friends where I can go on foot, because I don't have any money to pay for transportation"* (27-year-old male former student who lives in Nyalla and currently works as a tutor). But, above all, poor city dwellers try to organize their travel so as to avoid having to spend too much on public transport, as in the case of a self-employed 43-year-old man who lives in Mabanda business district and works in Akwa: *"But since I'm in the city center, I take advantage of that during the weekdays. For example, since I have a sister where I used to live at the Trois Morts crossroads, sometimes in the evening, after work, I stop by."* Similarly, a 27-year-old female cashier who lives at PK 12 takes advantage of being "in town" to go see some of her friends without spending anything: *"I go there on foot, which lets me limit my transportation costs."* But other friends remain inaccessible, because they live too far away, in places where she doesn't have to go for her work: *"Yes,*

because I have friends in Bonapriso, for example, that I can't see because the cost of getting there is too high."

Conclusion

We should start by pointing out that the examination of Douala residents' integration into social networks is incomplete: we have little or no information about visitors received in the respondents' homes (the frequency of visits received is closely associated with social status and age); other activities are occasions for social contacts, i. e. worship for men, shopping for women, work for occupied men and women, etc.

Nevertheless, both the quantitative data from the household survey and the statements made by poor city dwellers during interviews show the importance of social activities in the life of Douala residents and the limiting role of financial constraints. Maintaining a social network may be seen as an investment in the future or more certainly as a minimum safety net to protect against bad fortune, but, in any case, it means that an initial outlay is required. In particular, the cost of transportation (especially its monetary cost, but also its cost in terms of time) plays a significant role in determining the frequency of social trips. This is particularly true of the poor, who therefore face a limited capacity for social integration.

4.1. THE MAIN FEATURES OF DAILY MOBILITY

The figures in this chapter are based on a sample of 8,457 trips made within the urban area of Douala. The 17 non-urban trips that were recorded are not taken into account. Four-fifths of the trips were made on weekdays (Monday to Friday), and the rest on Saturday, since the survey did not cover Sunday travel.

Walking is the means of transportation used the most,[7] both during the week and on Saturdays (see Table 23). Shared taxis and *bendskins* handle the bulk of all trips made via public transport, accounting for 53 percent and 33 percent of such trips respectively, versus a combined total of 7 percent for light trucks, undeclared cabs, minibuses, and SOCATUR buses, which is the same as the proportion of trips involving combined use of taxis and *bendskins*. Private vehicles (automobiles, motorbikes, etc.) account for just 4 percent of trips, but this figure should be viewed in relative terms because the households in the sample are generally situated, by design, among the poor.

Table 23: Modal Split of Urban Travel* (percent)

	Weekdays	Saturday
Walking	70	65
Motorbike or bicycle	2	2
Automobile	2	2
Bendskin	9	10
Shared taxi	13	19
Bendskin and taxi	2	1
Other public transport	2	1
Total	*100*	*100*

** Percentages of the sample.*

Analysis of these trips based on their number of legs provides greater detail concerning the use of different modes and variations between weekdays and Saturdays (see Table 24). Trips involving just one leg are most often made by walking, while public transport, and particularly taxis and *bendskins*, predominate as the principal mode for other trips. But walking is also frequently used as a secondary mode of travel, either to arrive at the public transport stop

[7] Less than one fifth of trips involve more than one mode of transport. For these multi-modal trips, the main mode was determined as follows. Because walking is often combined with other individual and shared modes of motorized transport, we defined the main mode as a function of the motorized mode(s) used on the different legs of the trip. If all of the motorized transport legs used the same mode, this mode is counted as the main mode; bicycles and motorcycles, cars, *bendskins,* and taxis are counted each separately. Other public transport modes are placed in the "other public transport" category. When trips involve the use of different motorized modes of transport, the following principles are applied: if there is at least one mode of personal transport, it is counted as the main mode; if there is combined use of a *bendskin* and a taxi, the principal mode is defined as this specific combination; if the legs of a trip involve any two other modes of public transport (for example, taxi and light truck, minibus and light truck, bus and *bendskin*, etc.), the principal mode is classified under the heading "other public transport."

offs or to continue on to one's final destination. Thus, more than half of all trips on public transport require a stage on foot (longer than five minutes) at the beginning and/or the end of the trip and 63 percent of poor city dwellers' trips on public transport require at least one segment on foot. Some trips thus become very complex: "*Of course I take a taxi, but really the whole trip is spread over several segments. First of all, when I leave home in the morning, I have to go on foot for about a kilometer to find a car, what we call a "clando," an undeclared cab, to drop me at the road. Then I catch a taxi to Rond-Point, and then I have to find another taxi to take me from Rond-Point to where my job is*" (43-year-old man who lives in Mabanda business district and works in Akwa). On Saturdays, the use of *bendskins* and particularly taxis increases, even for trips involving only one leg.

Table 24: Modal split of urban trips by number of legs* (percent)

Number of legs	Walking	Two-wheelers	Auto-mobile	*Bendskin*	Taxi	*Bendskin* and taxi	Other public transport	All modes
Weekdays								
1	85	2	3	5	5	0	0	*100*
2	0	0	0	31	56	5	7	*100*
3	0	1	0	8	47	23	21	*100*
4	0	0	0	0	38	52	11	*100*
Weekday total	*70*	*2*	*2*	*9*	*13*	*2*	*2*	*100*
Saturday								
1	80	3	3	7	8	0	0	*100*
2	0	0	0	30	65	3	2	*100*
3	0	0	0	4	69	20	7	*100*
4	0	0	0	0	73	27	0	*100*
Saturday total	*64*	*2*	*2*	*10*	*19*	*1*	*1*	*100*

**Percentages of the sample.*

During the week, work and study represent the main reasons for travel, closely followed by activities related to household operation, which include water supply, purchases, services and procedures, and healthcare (see Table 25). Lastly, travel associated with social activity (visits, ceremonies, associations) accounts for one quarter of all weekday trips. On Saturdays, work- and school-related activities subside and the proportion of travel undertaken for these purposes declines, with social purposes then emerging as the leading reason for travel.

Table 25: Breakdown of urban trips by purpose* (percent)

	Weekdays	Saturday
Work, school	40	28
Domestic activities	36	34
Social activities	24	38
Total	*100*	*100*

**Percentages of the sample.*

Whatever the reason for travel, walking remains the principal means of transportation, both during the week and on Saturdays (see Table 26). Proportionally, walking is less often used for work-related trips, while it is almost the only mode of travel used for household-related trips. Among mechanized modes of travel, taxis are clearly the leading mode for trips associated with work and social contacts, but they fall slightly behind *bendskins* for activities related to household functions. On Saturdays, the overall ranking of the different modes remains the same, with taxis increasing their leading position among mechanized modes and surpassing *bendskins* for trips related to sociability.

Table 26: Modal split of urban travel for different purposes* (percent)

	Walking	Two-wheelers	Auto-mobile	Bendskin	Taxi	*Bendskin* and taxi	Other public transport	All modes
Weekdays								
Work, education	58	3	4	10	18	3	4	*100*
Household management	84	1	1	7	6	1	1	*100*
Social activities	68	1	1	9	16	2	2	*100*
Weekday total	*70*	*2*	*2*	*9*	*13*	*2*	*2*	*100*
Saturday								
Work, education	48	5	4	14	26	2	1	*100*
Household management	80	1	2	6	9	1	1	*100*
Social activities	63	1	1	10	22	1	0	*100*
Saturday total	*64*	*2*	*2*	*10*	*19*	*1*	*1*	*100*

** Percentages of the sample.*

The use of modes is also linked to the distance to be covered. The predominance of walking thus relates to the fact that local trips within one's home district are the most numerous, although the proportion of trips corresponding to distant connections is almost as high (see Table 27). "Intermediate" trips, between one's home district and an adjacent district, remain fairly limited. The breakdown for Saturdays stays the same.

Table 27: Modal split of urban travel by trip destination* (percent)

	Weekdays	Saturday
Within home district	46	45
Between home district and adjacent districts	11	12
Other destinations	43	43
Total	*100*	*100*

** Percentages of the sample.*

The results clearly show that the frequency of walking declines as the distance to one's destination increases, but walking nevertheless remains the primary mode, whatever the type of connection (see Table 28). Virtually all trips within one's home district are made on foot and, while the frequency of walking declines

sharply, it still accounts for two of every five trips to distant locations. *Bendskins* are used more often than taxis for short connections, while the latter are much more frequently used for distant destinations. The same holds true of other forms of public transport and combinations thereof: their use increases over greater distances.

Table 28: Modal split of urban travel by spatial link of trip * (percent)

	Walking	Two-wheelers	Auto-mobile	Bendskin	Taxi	*Bendskin* and taxi	Other public transport	All modes
Weekdays								
Home district	98	0	0	1	0	0	0	*100*
Adjacent district	68	2	2	17	10	1	0	*100*
Other types of trip	40	3	5	14	28	5	5	*100*
Weekday total	*70*	*2*	*2*	*9*	*13*	*2*	*2*	*100*
Saturday								
Home district	98	0	0	1	0	0	0	*100*
Adjacent district	61	1	1	22	15	0	0	*100*
Other types of trip	31	4	5	16	40	3	2	*100*
Saturday total	*64*	*2*	*2*	*10*	*19*	*1*	*1*	*100*

** Percentages of the sample.*

Walking thus remains a mode of proximity. However, it should be noted that, while the average time taken for trips on foot within one's home district is less than ten minutes, it more than doubles once the walker leaves his or her own district. Long trips on foot are, in fact, frequent: among the poor, close to 12 percent of trips are made on foot and last 30 minutes or longer, which, based on an average speed of 4 kilometers per hour, means a distance of over 2 kilometers. This high proportion is an initial indicator of the difficulties of access to public transport faced by poor households, either because the service does not match their needs or because they are unable to pay the fare. *Bendskins* play the role of a mode of relative proximity (17 minutes on average). Taxis, a combination of *bendskin* and taxi, and other forms of public transport handle more distant connections (30 to 50 minutes, i.e. one hour to one hour and 40 minutes for the round trip).

Conclusion

Daily mobility for Douala residents[8] is primarily a matter of trips nearing the vicinity of home. Work- and school related trips predominate on weekdays and social calls on Saturdays. Every trip involves walking: either the whole trip is made on foot or it involves walking at either end, when public transport is used. Some very long trips are made on foot: among pedestrian trips made by the poor, almost one trip out of eight lasts more than half an hour. Shared taxis are used somewhat more frequently than *bendskins*, while other forms of public transport, taken as a whole, play only a marginal role (even though they may be the only means of transportation available in certain areas).

4.2. WITH RESPECT TO MOBILITY, INDIVIDUAL STATUS OUTWEIGH HOUSEHOLD STATUS

The household survey allows us to discern two levels of poverty: household poverty, which refers to all monetary resources available within the household, and individual poverty, stemming from the lack of personal income.[9] How does each type of poverty affect daily mobility?

A breakdown of the population by these two types of poverty shows that male levels of mobility fall within a fairly narrow range, between 4.7 and 5.1 trips per day on average (see Table 29). The average mobility of "individually" poor men increases by 0.3 trips per day when the household is non-poor rather than poor. In the case of women, the range of average levels of mobility is slightly wider (between 4.0 and 4.6 trips per day), while the comparison between poor and non-poor households also shows increased mobility for the latter, although the increase is even smaller, equivalent to just 0.2 trips per day.

[8] The figures given in this section, and in the rest of this report, are taken from unadjusted data. Therefore, they should be interpreted as orders of magnitude rather than detailed estimates for the city as a whole, since the survey did not attempt to identify the mobility patterns of all Douala residents; instead, it focused on the poorest segments of the population. However, the various experiments with adjustment showed that these estimates are very robust and only show minimal changes in most indicators, particularly with regard to the poor (see Annex 7).

[9] Poor households are those where annual income is less than or equal to CFAF 272,000 per person. This means that individuals are poor if their annual income, adjusted by the factor [total number of household members/number of economically active persons in the household], is less than or equal to CFAF 272,000.

Table 29: Mobility and Household and Individual Poverty Levels

Gender	Household	Individual	Number	%	Mobility, all modes	*Of which: mechanized mobility***
Men	Non-poor	Non-poor	237	31	4.8	*2.5*
		Poor	104	14	5.0	*1.3*
	Poor	Non-poor	40	5	5.1	*1.9*
		Poor	387	50	4.7	*1.1*
All men			*768*	*100*	*4.8*	*1.6*
Women	Non-poor	Non-poor	119	16	4.6	*2.2*
		Poor	168	22	4.2	*1.1*
	Poor	Non-poor*	*13*	*2*	*5.2*	*1.7*
		Poor	457	60	4.0	*0.8*
All women			*757*	*100*	*4.2*	*1.1*

* *Memorandum item only, as the size of this subsample is extremely small.*

** *Mechanized mobility: number of trips other than trips made on foot.*

A review of other mobility indicators does little to challenge this observation of only slight variations within the "individually" poor population if the level of household resources is taken into account (see Tables 30, 31, and 32). The greatest disparities are found in women's reasons for travel: poor women from non-poor households travel more for household-related activities and less for work and education than do poor women from poor households. The breakdown of modes of travel and destinations show even smaller variations. The fact of belonging to a non-poor household slightly increases the proportion of distant trips and slightly improves the level of access to a mechanized mode, both for women and for men. But the sharpest disparities hinge on the individual's personal status. In view of this finding, we hereafter distinguish two categories of individuals: the poor, who have low personal monetary ressources, and the non-poor, whose economic circumstances are more favorable.[10]

Table 30: Purpose of trips made by poor city residents according to household income (percent of trips)

Gender	Household	Work and education	Household management	Social activities
Men	Non-poor	41	34	25
	Poor	43	30	27
Women	Non-poor	26	53	21
	Poor	35	43	21

[10] Even though we did not survey very affluent households, this category of non-poor is substantially more diverse in terms of disposable income than the category of the poor. Moreover, as is the case with any typology of population groups based solely on a poverty line, individuals living on very similar incomes may be classified on either side of the line and the poorest of the non-poor are actually hardly any better off than the most "affluent" poor!

Table 31: Modal split for trips made by poor city residents according to household income (percent of trips)

Gender	Household	Walking	2-wheel vehicle	Auto-mobile	*Bendskin*	Taxi	*Bendskin* and taxi	Other public transport
Men	Non-poor	75	1	0	7	13	2	2
	Poor	76	3	2	7	8	2	3
Women	Non-poor	74	0	1	9	14	2	0
	Poor	79	0	0	7	10	1	1

Table 32: Destination of trips made by poor city residents according to household income (percent of trips)

Gender	Household	Home district	Adjacent district	Other destinations
Men	Non-poor	51	13	36
	Poor	48	10	42
Women	Non-poor	54	15	30
	Poor	54	13	34

Conclusion

Household income has relatively little impact on the mobility patterns of city residents, but does slightly improve their access to mechanized modes of travel. Personal income has a much greater impact on mobility behavior, including the modal split.

4.3. POVERTY LIMITS ACCESS TO MECHANIZED TRANSPORT AND TO URBAN AREAS

Before examining the mobility of poor city residents in detail, we should look more closely at the behavioral differences between the poor and the non-poor. On average, poor individuals travel a little less than the non-poor: 4.4 trips per day versus 4.8 trips, respectively. Beyond the number of trips, however, the most significant differences between the two groups concern the characteristics of their travel.

These differences appear first of all in terms of their reasons for travel. Inasmuch as work generally means access to income, the rate of working individuals is higher among the non-poor than among the poor. The weight of work-related activities is thus substantially greater among the former, at the expense of household management trips (see Table 33). Socialactivities, on the other hand, show an identical rate in both groups, accounting for one of every four trips.

Table 33: Purpose of trips made by the poor and the non-poor (percentage of trips made)

	Work and study	Household chores	Social
Non-poor	48	29	24
Poor	37	39	24

Poor city dwellers are characterized by more limited use of mechanized modes, which account for fewer than one quarter of trips, versus nearly one half of trips made by the non-poor (see Table 34). The mobility of the poor is thus structured around their reliance on walking as the main mode of travel; on weekdays they make an average of 3.4 trips on foot per person. Access to individual modes of travel is rare (0.1 trip on average) and mobility associated with mechanized modes rests on the use of public transport (1.0 trip on average). The non-poor make an average of 2.5 trips on foot, 0.4 trip using personal modes and 2.0 trips using public transport.

Table 34: Modal split of trips made by the poor and the non-poor (percentage of trips)

	Walking	Two wheelers	Auto-mobile	*Bendskin*	Taxi	*Bendskin* and taxi	Other public transport
Non-poor	52	3	6	12	21	3	3
Poor	77	1	1	7	10	2	2

Moreover, the use of public transport by the poor is a little more complicated (see Table 35). In 70 percent of cases (62 percent among the non-poor), it entails either a change of vehicles or an initial or final segment on foot of at least five minutes' duration. The reasons for this are twofold: inferior service availability, as well as the "calculated" use of walking in order to shorten the distance to be covered by public transport and thus reduce the price, a strategy cited several times during the qualitative interviews: "*First I have to walk to the crossroads… yes, from here to the paved road… which takes about 15 minutes… And yes, it's mostly a matter of resources, because there are some motorbikes that come into the neighborhood, but to ride to the pavement, first you have to pay 100 francs, so it's often mostly a matter of having the resources up front…*" (26-year-old man who lives in Grand Hangar); "*People often jack up the price, so you have to set out on foot to find a rate that you can afford. Yes, I sometimes go on foot to try to shorten the distance and find… a good price… or a taxi that is affordable. So, to shorten the distance as much as possible… for example, if I'd have to take three taxis in a row, instead I walk for a while in order to reduce the number of taxis, for example, down to two*" (36-year-old man who lives in Nylon Barcelone and works in Akwa). In many cases, the decision to use a mode of public transport is directly linked to the situation of the moment, the immediate availability or unavailability of cash, and whether it was a good day at work: "*I always return home on foot, except if I have plenty of cash, I take a bendskin*" (father of six children who lives in Mabanda business district) or whether, conversely, sales were down: "*Sometimes, if I can't afford a ride, I even walk on the return trip home*" (40-year-old vendor who lives in Bépanda Omnisport).

Table 35: Structure of travel by public transport by the poor and the non-poor (percent of trips made by public transport)

Trips with ___ legs:	Number of legs on foot	Number of legs by public transport	Percentage of trips made by the non-poor	Percentage of trips made by the poor
1	0	1	38	30
2	0	2	6	5
2	1	1	36	46
3	0	3	1	0
3	1	2	11	10
3	2	1	6	6
4	0	4	0	0
4	1	3	1	1
4	2	2	2	2
Total trips on public transport			*100*	*100*

The reliance on walking as the principal mode of travel restricts potential destinations. More than three of every five trips made by the poor take place close to home, either in adjacent districts (12 percent) or, especially, within the home district (51 percent). In contrast, the non-poor travel into the city in similar proportions (59 percent) by making use of mechanized modes of travel. These differences in access to modes and potential destinations result in different patterns of time use (see Table 36). Whether traveling on foot or by mechanized modes, the average time of trips made by the poor is slightly longer. But, because of a greater use of mechanized modes, the daily travel time budget for the non-poor is higher (1 hour and 45 minutes, including 28 minutes on foot). Poor city dwellers spend, on average, nearly an hour and a half in travel time each day (1 hour and 24 minutes, including 46 minutes on foot).

Table 36: Average travel time per trip and travel time budget (minutes)

	Average travel time per trip		Travel time budget		
	Walking	Mechanized mode	Walking	Mechanized mode	Total
Non-poor	11	33	28	77	105
Poor	14	37	46	37	84

Conclusion

The poor travel just a little less than the non-poor do. More importantly, they travel differently. Household manangement activities are the primary reason for the mobility of the poor, while work and education trips represent the bulk of travel for the non-poor. The poor walk much more not only because their destinations are more likely to be nearby but also because they cannot afford to use public transport. And even if they use public transport, they are more likely to encounter access problems.

4.4. DIFFERENT CATEGORIES OF THE POOR: DIFFERENT BEHAVIORS AND DIFFERENT NEEDS

Daily mobility is strongly determined by the socioeconomic characteristics of the individual, such as gender, employment status, type of work if applicable, age, position within the household, etc. (Diaz Olvera et al., 1998). In order to analyze more closely the patterns of mobility within the poor population and thereby identify each category's particular needs and constraints, we have defined five groups of poor city dwellers based on gender and employment status. School children and students (boys and girls combined, since differences based on gender are still relatively slight) make up the largest group (one third), ahead of non-working women (20 percent), working women (19 percent), working men (16 percent), and, finally, non-working men (9 percent). The principal aspects of mobility of these five groups are presented in Tables 37 to 40, and various socioeconomic characteristics of these groups are presented in Annex 6.

Table 37: Overall mobility characteristics of different categories of the poor

Group	Immobility rate*	Mobility	Total travel time budget (TTB)	Share of walking in TTB	Share of mechanized modes in TTB
Students	2	5.1	82	61	20
Working women	10	4.2	73	42	31
Non-working women	22	3.3	54	31	22
Working men	3	4.8	152	43	109
Non working men	21	3.5	60	39	22

** Immobility rate: percentage of individuals who did not make any trips on the survey reference day*

Table 38: Breakdown of mobility by trip purpose and by groups of poor (percent)

	Work, school	Household chores	Social contacts	*All purposes*
Students	45	36	19	*100*
Working women	46	36	17	*100*
Non-working women	0	68	32	*100*
Working men	54	22	24	*100*
Non-working men	7	41	52	*100*

Table 39: Modal split by groups of poor (percent)

	Walking	Two-wheelers	Auto-mobile	Bendskin	Taxi	*Bendskin* and taxi	Other public transport	*All modes*
Students	87	0	0	7	3	1	1	*100*
Working women	73	0	0	13	10	2	2	*100*
Non-working women	74	0	0	13	10	2	1	*100*
Working men	57	7	3	13	12	3	5	*100*
Non-working men	78	1	0	12	6	1	2	*100*

Table 40: Breakdown of mobility by destination and by groups of poor (percent)

	Home district	Adjacent districts	Other destinations	*All destinations*
Students	59	14	27	*100*
Working women	46	13	41	*100*
Non-working women	56	13	31	*100*
Working men	32	9	59	*100*
Non-working men	60	7	32	*100*

School children and students: walking to school

The population in education is young, and boys slightly outnumber girls (53 percent versus 47 percent). Almost three quarters are under 19 years of age (for an average age of 16 years, given the lower age limit of 11 years used in the survey). Three quarters are the children of a household head, while the remaining quarter are other relatives taken in by the household. Virtually all are single.

Three quarters of these young people are enrolled in secondary schools, mostly in the first cycle of secondary education (*collège*) and less frequently in the second cycle (*lycée*). One out of six is in primary school, and one out of ten in higher education. The educational level has a direct bearing on the location of the place of study. At the primary level, the school is located close to home (inside the home district more than half of the time, and in an adjacent district in three out of ten cases). But only 57 percent of *collège* students, half of *lycée* students, and 7 percent of university students attend school inside their home district or in an adjacent district. Still, walking remains the principal mode of travel between home and school: 72 percent walk in both directions, while 4 percent either walk to school or return home on foot, but not both.

Going to school is apparently not very compatible with paid work (or at least paid work that is sufficiently regular to have been declared). On average, just one of every 18 students works. However, among the student population, more boys work (one out of 12) than do girls (one out of 50). Non-salaried work is most common: nearly half are self-employed vendors, while one quarter describe themselves as family helpers. A majority work outside the home: 46 percent work nearby (inside the home district or in an adjacent district), and just as many work "intown". Eight of every ten rely on walking as their sole mode of travel between home and work. For these working students, annual income is close to CFAF 100,000, whereas other students, mainly relying on gifts, can only count on an average income of CFAF 30,000.

School children and students are the group of poor Douala residents who travel the most, making an average of 5.1 trips per person on weekdays. As one might expect, school-related travel (sometimes combined with work-related travel) is the principal reason for mobility (accounting for close to half of all trips), followed by travel for household purposes and, lastly, travel for social purposes. Close to three quarters of all trips take place near home, primarily within the neighborhood itself. Walking provides this mobility of proximity, but is also relied upon for longer trips, since nine of every ten trips are made on foot. A lack of personal resources explains this widespread reliance on walking: *"Because on days when you can't afford to catch a motorbike, you have to leave very early to go on foot. It happens a lot!"* (23-year-old woman who lives in Grand Hangar and is in her final year of secondary school at the *Lycée Polyvalent* in Bonabéri). In fact, this group is characterized by the presence of "exclusivepedestrians," as nearly seven of every ten students had traveled exclusively on foot on the day before the survey.

The time spent daily on travel is 1 hour and 22 minutes, including one hour on foot. While the average trip on foot is short (about 15 minutes, i.e. a distance of roughly one kilometer), repeated trips on foot mean that one of every six students walks for more than an hour and a half as part of his or her daily mobility.

While boys travel slightly more than girls, mobility characteristics vary little by gender. HoweverInstead, the differences based on educational level are much more pronounced. The higher the level, the more likely students are to leave their neighborhood and the less likely they are to travel on foot. The difference is particularly great between university students and students at lower levels. University students travel less than the others (5.1 versus 5.7 trips, respectively), but they travel greater distances, and half of their trips involve travel outside the adjacent districts. Although walking still accounts for a majority of trips, two out of five trips are made by public transport, with taxis alone accounting for one quarter of the trips. The travel time budget for university students is 1 hour and 50 minutes, including 1 hour and 10 minutes in public transport: *"In terms of time, I think it's at least two hours when I have enough money to catch a ride, in other words one hour to get there, and one hour to come home. But when I go on foot, it can take about five hours"* (student working toward his bachelor's degree who lives in

Mbangué). But this practice still accounts for only a minority of trips by youngin education, who are highly mobile, but chiefly within the vicinity of home.

Working women rarely travel far from home

The majority of working women have a family to support, one fifth of them as heads of household and close to half as wives. The others are either daughters of the head of household or other relatives. With the exception of wives, these women have no spouse: they are either still single or divorced, separated, or widowed. The average age in this group is 34, and there is a link between average age and the woman's position in the household: household heads are over 40, wives are scarcely older than the average age, and daughters and other relatives are still under 30. The educational level is low: one of every seven poor working women never went to school, two out of five went only as far as primary school, the same proportion went on to the first cycle of secondary education, and very few went further.

More than two-thirds of poor working women are self-employed; mostly heads of household and wives, they are principally involved in the retail trade. Others occupy unskilled jobs (employees, factory workers, servants, apprentices, family helpers) in the tertiary sector. Only one out of five has a permanent, salaried position, and very few (6 percent) are engaged in multiple activities. Resources (including non-work-related resources) thus remain limited, at an annual average of CFAF 270,000, i.e. roughly 60 percent of the average income of poor working men. However, there are significant differences depending on the type of work. On average, poor working women who draw salaries receive close to CFAF 330,000, versus CFAF 256,000 in the case of the non-salaried. Among the latter group, those unable to find a permanent job have substantially fewer resources, equivalent to just 40 percent of the income of those holding permanent, non-salaried jobs.

Poor working women thus generally hold low-skilled jobs that keep them close to home. Only one out of three must travel downtown to get to work (see Table 41). This trend is particularly pronounced for some female heads of household and wives who must more frequently work at home in order to juggle their domestic and work-related activities.

Table 41: Place of work for working poor women according to their status within the household (percent)

	Home	Home district	Adjacent district	"In town"	*Total*
Household heads, wives	28	25	13	34	*100*
Daughters, other relatives	16	33	16	34	*100*
Total	*24*	*27*	*14*	*34*	*100*

Poor working women have a lower level of mobility (4.2 trips per day), but the breakdown of their reasons for travel is very similar to the breakdown for youth

in education: slightly fewer than half of all trips are for work-related activities (with work of course replacing school in this case), and more than one third of all trips are for domestic activities. But of all groups of the poor, this is the group for which social activities are the least common reason for travel. This finding is a reflection of the dual constraints – work and home – that such women face and which leave little time for other activities. Thus, a 32-year-old vendor who works at the Mabanda market, two kilometers from where she lives, is unable to visit all her acquaintances: "*It's not easy to get around all the time, and with my work, it's not that simple. Yes, it's a matter of money and work. I have to sell things everyday. Sometimes on Sundays I might stop at noon.*" Another vendor (who works at New Deïdo market and lives in Bépanda Yoyong) with a demanding schedule that juxtaposes work-related activities and domestic chores is even more explicit: "*No* [as regards visits]*, because, as I told you, I'm already working everyday and I have to leave the house very early. Then, when I come home in the evening, I have to cook for the children, so I don't have much time.*"

Their tight schedules, combined with a significant number of long trips (40 percent), make walking unsuitable for meeting the needs of poor working women, all the more so because the availability of personal income makes it possible for them to use public transport from time to time. Thus, the equivalent of one trip is made daily by *bendskin* or taxi. In particular, public transport is frequently used by women merchants when they need to lay in supplies: "*Very often I go on foot. But I take a light truck when I buy bulk supplies*" (32-year-old vendor who works at the Mabanda market). Poor working women thus spend close to an hour and a quarter each day in travel time, including a half-hour on public transport: "*Rise early, leave the house at 6:30 a.m., take 20 or 25 minutes to reach the main road on foot, then wait and wait; and even so, the price is high: 250 francs*" (27-year-old female cashier who lives in Kotto Village and works in Akwa).

These general characteristics of mobility are, however, tied to a woman's position within the household. When women have a family to take care of (as household heads or as wives), trips related to household chores are more frequent and, in number, they even rival trips made for work-related purposes. In addition, these women travel less within their home district and also walk less. The differences also extend to the type of public transport used, as they prefer to take taxis (one of every six trips) while younger women tend instead to take *bendskins* (one of every seven trips). These variations in the use of modes of travel are the result of greater monetary resources and, perhaps, are also the result of implicit rules linked to differences in status. In any event, having a job hardly permits women to escape the constraints bearing on female roles when the job generates only limited income.

Non-working women make fewer trips and stay close to home

Economically inactive women are the second largest group of low-income Douala residents. In comparison to working women, they are more often wives of household heads (two-thirds) and thus married (close to 70 percent). They are

also a little younger (32 years on average). Their educational level is higher, as a greater proportion have reached especially the first cycle (*collège*), but also the second cycle (*lycée*), of secondary school. On average, these women receive CFAF 60,000 per year in the form of gifts, or even allowances and pensions or, more rarely, rent. But one out of two has no monetary resources of her own, although the situation of older women appears somewhat more favorable in this regard (see Table 42).

Table 42: Annual income of non-working poor women, according to age

Age group	% of non-working women	Annual income (CFAF)	% of age group with no income
Children (10-13)	0	0	100
Teens (14-18)	9	34,000	48
Young adults (19-34)	58	54,000	51
Older adults (35-54)	24	65,000	59
Elderly (55 and over)	9	124,000	32
Total	*100*	*61,000*	*51*

Poor non-workingwomen have the most restricted mobility in terms of the number of trips made (3.3 trips per day on average), and in terms of destinations, since barely a third of their trips take them farther than the adjacent districts. They also have the smallest travel time budgets (under one hour). Household management account for two-thirds of these trips, while the remaining third are made for social purposes. In proportionate terms, their use of different transport modes is identical to the patterns displayed by working women: three quarters of their trips are made on foot, and *bendskins* are used more often than taxis. Caught between domestic responsibilities and a lack of resources, poor non-working women appear to be the group most tightly tied to home.

Working men enjoy relative autonomy, but their travel is greatly restricted

More than two-thirds of poor working men are heads of household. The great majority of them are married, while the sons and other male relatives of household heads are typically single. The average age is 34 years, as in the case of working women, but more than half are under the age of 35 years. After students, this is the most educated group: one quarter of poor working men have gone as far as the second cycle of secondary education, and one twentieth have gone on to higher education.

Seventy percent of the men do non-salaried work and, for one of every seven poor working men, employment is precarious (that is, it is both non-permanent and non-salaried). Only 10 percent indicated that they have a second job. Average annual income is approximately CFAF 460,000, but there are great disparities depending on the type of work: those who are non-salaried and non-permanent receive, on average, 42 percent of the income of salaried workers, while those who are non-salaried but permanent receive 70 percent.

Their level of mobility is high and close to that of students, with an average of 4.8 daily trips. However, this group is distinct from all others because their mobility is more concentrated on work-related travel, with more distant destinations (a large majority of their jobs are located "intown") and more intensive use of mechanized modes of travel (more than two of every five trips). Their relative financial autonomy allows them to make quite frequent use of public transport and even, in some cases, personal modes of transportation, although 40 percent go to work on foot, often for lack of resources: *"I go on foot much more often than by taxi, because I can't afford to pay"* (night watchman who lives in New Bell and works in Akwa). This results in a daily travel time budget of more than an hour and a half (including one hour on public transport) and even as high as two hours and a half when itinerant workers are included. This very substantial time budget is the result of relatively slow traffic, which stretches the travel time, as well as uncertainties regarding waiting times and the difficulties of boarding a vehicle, which can increase the total time so as to be on the safe side: *"You have to bargain before boarding the vehicle, and already you have to be attentive and also pretty brave to climb into the car because there are lots of people. There really isn't any method to it. When you arrive, you wait, and then you rush to board the vehicle. If you get in, then you can go, but if you don't, then you have to wait for the next vehicle"* (male computer maintenance technician who has no stable job and lives in Nyalla); *"I get up early, at 5 a.m., to allow at least 30 minutes waiting for the bus, so that I can be at work no later than 8:30 a.m."* (37-year-old man who lives in Grand Hangar).

Working downtown means more frequent use of public transport and results in a substantial increase in the travel budget of poor working men, both in terms of time (1 hour and 46 minutes versus 1 hour and 19 minutes) and, especially, money (CFAF 408 – and as much as CFAF 539 for those indicating that they travel both to and from work by public transport – versus CFAF 151 for those who work in their home district or an adjacent district). But, as we have seen (3.2.), the increased income gained by traveling this distance easily offsets the additional travel costs, although certain situations may lead individuals to prefer not to set up business downtown: *"Because in my doughnut business that I was telling you about, it was clear to me that I could sell doughnuts in the city, but transportation is expensive, so it's not easy to get around, and that would cut into my income…"* (mason's assistant who lives in Grand Hangar, has no job, and is currently "getting by" by making doughnuts at the Grand Hangar market).

Non-working men have little mobility if they are old, but mobility similar to students' if they are young

Poor non-working men are few in number. A majority of them are, first of all, the children or other relatives of household heads and, second of all, single. They are slightly less educated than poor working men, but still one fifth have gone as far as the second cycle of secondary education and one twentieth have gone on to higher education. The average age is high (38) because of the large proportion of elderly men (one quarter). This is in fact a heterogeneous category that includes both retirees and young adults still supported by the head of household.

The average annual income of these men is CFAF 156,000, but this average figure does not convey the very substantial age disparities (see Table 38). The further an individual has progressed through the cycle of life, the more likely he is to have a source of income, or even several: gifts, but also retirement benefits or rent on property acquired in the past.

Table 38: Average annual income of poor non-working men, broken down by age group

Age group	% of non-working men	Annual income (CFAF)	% of age group with no income
Children and youth (<19)	10	12,000	62
Young adults (19-34)	45	57,000	52
Older adults (35-54)	21	229,000	32
Elderly (55 and over)	24	342,000	17

The limited daily mobility (3.6 trips) of poor non-working men is dominated by social activities, which account for more than half of their trips. The rest are devoted almost exclusively to household chores, although some young adults indicate that they also travel in search of work. This mobility is mostly confined to the neighborhood, even more so than in the case of non-working women. After students, non-working men are the group that travels the most on foot (more than three quarters of all trips), but typically over shorter distances, particularly in the case of the oldest among them. Their travel time budget comes to one hour, including roughly 20 minutes of mechanized transportation.

The mobility characteristics of poor non-working men are linked to the age of the individual. Involvement in household management dwindles among the oldest, who then, on average, make one fewer trip than those under 55 years of age. Among the elderly, walking has an equivalent role, but *bendskins* lose ground to taxis, which offer a better match in terms of comfort and image to go along with their status as "elders" and which they can more easily afford because of their greater income.

Conclusion

The five categories of poor city residents have distinctive mobility patterns. Naturally, these are overall trends, which means that some individual patterns can be quite different from these average profiles, but the differences in behavior and the consequent needs of poor city residents stand out clearly. However, two broad mobility profiles emerge from these analyses.

The dominant profile, confinement to the neighborhood, refers to travel behavior organized in the vicinity of the home (the home district and adjacent districts), with virtually all trips being made on foot. Travel to the city center and the use of mechanized transport are both rare. This is the case for non-working men and women, youth in education, and a large number of working men. Their needs mostly

revolve around improving the availability of basic services within the districts and making it easier for pedestrians by improving or developing pathways.

The second type of behavior requires travel to the city center. This profile fits some of the working poor, as well as older students, whose place of work or study is located "in town", at some distance from home. Travel into the city center means long trips and a personal choice between the expense of public transport and the time and effort required for walking. They could be helped in particular by efforts to alleviate the isolation of certain districts, rehabilitate the main routes, and reduce the price of public transport.

The cost of using public transport is high in relation to the incomes of Douala residents: the annual incomes of poor non-working women are so low that they cannot afford even one trip a day by public transport, even if they never spend any money on anything else! Before attempting to measure more precisely the burden that daily mobility places on city dwellers' budgets, we should note at the outset that actual prices greatly exceed posted base fares.

Real prices often much higher than the "official" fares

The real cost of using the different forms of public transport varies widely. The relative discrepancy of 50 percent between the "official" fares for taxis (CFAF 150) and *bendskins* (CFAF 100) is perfectly matched in the prices actually paid by users: on average, a single trip in a taxi costs CFAF 195, versus CFAF 127 in the case of *bendskins*.

The gap between the "official" fare and the real price is partly the result of the fact that some trips require taking several taxis or *bendskins* successively due to the shortening of routes by transport operators. But it is also due to the practice of negotiating the price at certain hours or for certain destinations. These practices apply to all modes of public transport with the notable exception of SOCATUR buses, and is especially common at peak hours. In the words of a man who works as a cybercafé supervisor and lives in Bonadiwoto: "*I can hop on a light truck for 150 or 200 francs; the price depends on the time I leave, because at rush hour the price goes up, and that's a problem for our wallets,*" while a woman vendor of fresh fish who lives in Bépanda Yoyong complains: "*Right around 5 o'clock the light trucks are very expensive, because all the merchants want to leave at the same time.*"

Thus, trips involving a single taxi ride cost CFAF 150 in 60 percent of all cases, but the real price is lower for close to one of every ten trips, while it climbs to CFAF 200 or even higher for nearly one of every three trips: "*You have to propose a price, and it's not cheap; from Bonanjo or Bonapriso to Bonabéri, it costs 1,000 francs, not 300*" (36-year-old vendor who lives in Bonanjo).

Similarly, 65 percent of *bendskin* users spend CFAF 100, but 21 percent pay CFAF 150 (the price of a taxi) and 13 percent pay at least CFAF 200: "*There are times, very early in the morning, when you have to pay 125 francs, but as soon as lots of them are out, if you can catch one, they'll take 100 francs. And if you have to go a long distance, it's hard to manage with what's in your pocket*" (mason who lives in Maképé Yoyong and currently has a small grocery business).

The distribution of trip durations confirms that *bendskins* function mainly as a mode of relative proximity, while shared taxis are used for trips involving

greater distances[11] (see Tables 39 and 40). The real prices are directly tied to the length of the trip. Even though our surveys do not provide this information, it has been observed that the price for *bendskins* is higher by a third when the trip duration increases from under 5 minutes to more than 20 minutes,, and it more than doubles for taxis when the length increases from under 5 minutes to more than three quarters of an hour.

Table 39: Distribution of travel times by *bendskin* (percent of trips) and corresponding fares charged (CFAF)

Minutes:	-5	6-10	11-15	16-20	21-
%	10	28	23	17	22
Fare	107	115	128	135	143

Table 40: Distribution of travel times in shared taxis (percent of trips) and corresponding fares charged (CFAF)

Minutes:	-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-
%	3	11	16	12	7	19	6	6	7	13
Fare	127	145	156	175	176	191	204	226	241	288

Compared to taxis, the use of *bendskins* thus appears more homogenous, and the prices paid by city dwellers do not hinge significantly on their location of residence within the urban space. The use of taxis, on the other hand, is more varied and shows clearly the disparities in access to the city, based on one's place of residence: one third of all taxi trips by right bank residents take at least three quarters of an hour, which is true of fewer than 15 percent of trips by residents of the city center. The former thus spend an average of CFAF 238 per taxi trip, compared to just CFAF 179 for the latter. Access to urban amenities and both formal and non-salaried work "in town" that pays better than the jobs found in most neighborhoods is thus doubly difficult for residents of outlying areas, in terms of both time and cost: *"The high cost of transportation keeps me from traveling on my days off"* (27-year-old female cashier who lives in Kotto Village and works in Akwa).

An overstated transportation burden in remarks by city dwellers, nonetheless a real burden that many poor households have trouble affording

Thus it is hardly surprising that, during the interviews, respondents indicated that they devote a large portion of their budget to transportation: *"I could practically say that I work for the drivers!"* (bachelor with two brothers to support who lives in Bonadiwoto and works in Akwa); *"Two-thirds of my wages go for transportation, so if there were some way to lower the fares, that would really help us out"* (36-year-old married man who works in casual labor on an irregular basis and lives in Nylon Barcelone). For a majority of the respondents, this portion is reportedly even higher than the respective shares of their budgets devoted to

[11] This statement should, however, be qualified by noting that *bendskins* are a quicker mode of travel and often require less waiting than taxis, which reduces the time to travel a given distance.

food and housing: "*In all, I spend at least 10,000 francs each week for transportation. Transportation costs more than what it costs me to eat. I spend an average of 500 francs a day on my food*" (37-year-old man who "gets by" on masonry and lives in Grand Hangar). The survey of household expenditures in Yaoundé and Douala that was conducted in 2000 corroborates these statements to only a very limited extent[12] (DSCN, 2001; DSCN, 2002). On average, the survey shows transportation to be only the third largest category of household expenditures, both among the poor and among the non-poor. Just 3 percent of poor households spend more on urban transport than on food. On the other hand, in close to one of every four households, much more is spent on urban transport than on housing (fluids, amenities, maintenance, in some cases rent). This proportion varies little between the poor and the non-poor, but is closely tied to occupancy status, doubling between renters and owners.

More than measurements of objective situations in which transport allegedly surpasses all other consumer spending categories, it is the statements made by the interviewees that should be taken as a very strong signal of the monetary pressure caused by compulsory trips which are needed to carry out daily activities and thereby survive. Still, the SITRASS household survey shows that poor households devote 23 percent of their resources to urban travel alone, versus 16 percent in the case of the non-poor, and that slightly more than a quarter of poor households spend even more than 30 percent of their income on travel. This finding is all the more remarkable in view of the fact that the mobility of poor households in mechanized modes remains very limited. In proportion to the number of household members, poor households spend considerably less money than the non-poor on travel by public transport (not to mention personal modes, which are essentially out of reach): individuals from households of the last quartile (the most affluent 25 percent) spend, on average, 2.2 times more on public transport than individuals from poor households. In other words, the poorest are less numerous in public transport than the wealthiest.

Under the circumstances, more intensive use of public transport by poor city dwellers appears incompatible with their resources. Analysis of data from the household expenditure survey of 2000 shows that, on average, once food and housing (rent and fluids only) are subtracted from the household budget, all that remains for members of poor households in Douala on a daily basis is an amount less than the equivalent of one round trip by shared taxi. Yet, this amount must cover spending on healthcare, education, clothing, and home maintenance, as well as travel. The situation is of course not quite so absurd when this calculation is refined and limited to individuals 15 years of age or older (based on the hypothesis that younger children do not need to use public transport), and clearly budget constraints substantially limit the consumption of transport services by the poorest city dwellers: "*If I have class at 7:30 a.m., then I have to be up at 5:00 a.m. to catch a taxi. When I go on foot, it's better if I go a little earlier, or if I can*

[12] It is, however, recognized that expenditure type surveys tend to downplay spending on daily travel (Diaz Olvera et al., 2001).

see that I won't have any money the next day, then I stay near the university and don't even come home, and I make whatever arrangements I can" (student working toward his bachelor's degree who lives in Mbangué).

In conclusion,

> **Poor households spend more than a fifth of their budget on daily mobility. Beyond the exact measurement of transport expenditure, many city dwellers cite the unbearable weight of transportation costs in their budget. The choice of *bendskins* over other forms of public transport, the practice of shortening the distance covered in mechanized modes by increasing the distance covered on foot, fare bargaining, and prioritization of needs and consequently of reasons for travel are just some of the ways individuals attempt to reduce their transportation costs. However, these strategies do not allow poor city dwellers to rid themselves of the monetary constraint, only, at best, to cope with it.**
>
> **Leaving aside the issue of varying mobility needs (in other words, i.e. do the poor have less need to travel because there are fewer jobs and these jobs are closer to their homes?), we must face the fact that lack of income means that it is hard to imagine that the poorest will increase their use of public transport substantially. Budgetary constraints obviously restrict the poorest city residents' consumption of transport very severely. Overcoming these constraints requires either an increase in these populations' income or measures to reduce fares.**

An analysis of the field research shows that Douala residents have problems accessing basic necessities. These problems are especially hard on poor residents. For them, access to work is more complicated and therefore fewer of them have jobs; schools and healthcare facilities are far away and the quality of service provided by public institutions is poor, "local" markets are not always that local and the food they sell is more expensive, the chore of fetching water is a daily burden, etc. Social contacts are important and city residents try to maintain them, but many poor people are in a vulnerable situation and their "support network" is reduced or even nonexistent because they do not have enough money to maintain it. Furthermore, these problems often accumulate and make daily life more difficult, especially in isolated areas and the outermost suburbs.

Observation of travel patterns clearly show that the poor have to contend with worse travel conditions than more affluent city residents do because on top of the shortcomings of urban services there are also inadequacies of the transport system. Private vehicles are beyond their reach. Public transport is inadequate and the actual fares charged in certain places and at certain times of the day are a real burden on household budgets. In addition, the quality of service is poor. Some residents have to walk long distances. Walking is hard, because of the lack of sidewalks, the poor repair of infrastructure, and the lack of appropriate pathways.

Of course, more affluent city residents also suffer from the poor state of the roads and the inadequacies of public transport and it seems difficult to promote a policy that targets the poorest residents exclusively. But it would be just as unrealistic to settle for a general urban transport policy in the hope that it would automatically benefit all segments of the population. Therefore, we need to aim at improving the overall transport system, while making substantial changes to the parts of the system that are most suited to the needs of the poorest segments of the population. A number of actions seem likely to help make the transport system fulfill its role of providing access to urban activities, whereas it presently acts more like an obstacle to such access. These actions concern roads, conditions for pedestrians and public transport. They should be backed up by action to make basic services available locally. Finally, monitoring indicators should be established to track the implementation of these various actions.

6.1. ACTION TO IMPROVE ROADS

Douala is in fact a two-speed city. It is Cameroon's gateway to the world, the transit point for the country's trade, particularly its trade in goods, with the rest of the world. But it is also a city with nearly 2 million residents for whom daily travel is essential to earn enough income to cover their daily requirements.

The first action to be carried out is to improve mobility with an adequate road system. Current and recent programs have helped to renovate the main road network, the roads that make Douala an international city. But action also is needed to reach isolated areas by putting the priority on local roads. This brings us to the question of which changes are needed in existing programs. In order to ensure long-term success, work should be done in two directions to ensure appropriate road design that gives due consideration to the financing capacities of the various partners. For many roads, the first step is merely to upgrade them so that shared taxis can get through, before eventually making them passable for minibuses and buses. In addition, consideration must be given to future maintenance work, since the appropriate technical solutions, such as paving roads with cobblestone, are available.

Given the upcoming decentralization measures and before implementing these actions, thought needs to be given to the division of responsibilities between the Urban Community, whose role should be strengthened and whose resources should probably be augmented, and the more local players, such as mayors and community leaders. Their input is critical for the success of certain neighborhood microprojects. The same question could come up if other civil society players emerge who are willing to work on these issues.

6.2. ACTIONS TO IMPROVE CONDITIONS FOR PEDESTRIANS

We have seen that walking is the leading mode of transport in Douala, as it is in most African cities. It is even more important for the poorest residents, who are only likely to use motorized transport occasionally and usually have to walk before and after riding.

Objectively, the conditions for pedestrians are so bad that it is critical to facilitate walking by means of a set of low-cost improvements that still require a minimum of know-how and coordination. These actions were sorely neglected in the past and it will probably take a "cultural revolution" to have pedestrians' needs systematically and explicitly taken into account in all future projects. Action should be taken at several levels:

- Improving neighborhood pathways, especially in isolated areas. Micro-civil-engineering projects to provide safe crossings over ravines, drains, etc. are bound to improve daily conditions for residents. Lighting is a delicate issue, because it relates to the increased risk of accidents and the security of persons and property, but it does carry a high cost.

- Preserving pathways along or parallel to main roads and making them safer. Sidewalks are not necessary everywhere and the financing for them is hypothetical. In many cases, maintaining or improving (stone paving) the shoulders of roads would be adequate.

It is clear, however, that road improvements will only solve part of the problem. Other mobility obstacles stem from problems with the organization of public

areas in order to limit conflicts of use and the resulting problems of comfort and security. More specifically, it is important to enforce (negotiate?) discipline with regard to the use of sidewalks for various activities such as craft businesses and street vendors, parking on the sidewalk, and the dumping of garbage, which aggravates sanitation problems. This approach should be different depending on areas, however. In central areas and areas along the main roads or crossed by the main roads, the issue of sharing space is particularly acute and needs to be dealt with soon. On the other hand, in outlying or isolated areas, the coexistence of commercial activities with pedestrian traffic is much less of a problem and does not require such urgent action.

6.3. ACTIONS IMPROVING PUBLIC TRANSPORT SUPPLY

A more detailed analysis of the current public transport system in Douala obviously needs to be carried out to identify the specific actions to be implemented. Such an analysis was not within the scope of this report. However, a number of suggestions can already be mentioned for further exploration.

Organizing multimodal transport by working to create an organizing authority

The new generation of urban transport enterprises to which SOCATUR belongs is required to be less dependent on public financing (from the central or municipal government). These developments exacerbate the poorest residents' problems gaining access to public transport. The fares that these companies have to charge to remain financially viable (an issue which needs to be examined in detail) would appear to put them beyond the reach of poor passengers, who can only be occasional passengers at the most. There is a lot to discuss in this regard, but it is clear that a multimodal public transport system is required. Such a system would combine various means of public transport. The discussions could be extended by considering what the restoration of rail service might offer, since a number of former holdings are still intact (at least partially), or even to contemplate the use of water transport.

It is clear that the diversity and adaptability of independently operated means of transport help improve the mobility of the poor, despite the many drawbacks, such as the shortening of routes that can increase the cost of travel 2 or 3 times. Therefore, an effort should be made to improve organization and productivity of these modes of transport, while enforcing minimum service quality standards. In any event, as regards the mobility of city residents, the current contribution of *bendskins*, which is on the rise and proportionally greater for the poor than the non-poor, should be viewed as a reason to maintain this activity, with an emphasis on its role in providing local service and connecting to other modes for longer trips. The emergence of a professional organization should also be encouraged, since existing labor unions focus primarily on the concerns of shared taxi drivers, which means that there are no legitimate representatives of *bendskin* operators to negotiate with the authorities.

Organizing a multimodal transport system calls for a hierarchy of routes with transfer points that shape the public transport network. Most routes run along the main roads where demand is strongest. Incentives could be created to encourage service on secondary routes in order to strike a balance in the prevailing pattern, which is the result of an unregulated market. Various types of action could be taken:

- improving certain problem areas in the road network;
- establishing parking areas in close consultation with transport operators;
- issuing permits to operate in different zones;
- providing information for transport users;
- support for the transport operators concerned.

In any event, it would be unrealistic to hope that such an organized route system could be developed simply by improving the road network, with each mode of public transport "naturally" serving a particular type of route, depending on the infrastructure, with buses running along the main roads, taxis covering broad areas, *bendskins* handling trips from the main roads into isolated areas, and minibuses and light trucks running on routes in the outlying areas only.

On the contrary, developing this system would require determined action and the creation of an organizing authority with appropriate human resources and funding. There have already been some experiments in Africa. They have encountered some deep-seated problems. But there is nothing surprising about these problems and they do not call into question the very good reasons for making these attempts at institutional reform. A prerequisite in Douala would be a clarification of which institutions are responsible for organizing transport, and there seems to be a genuine consensus among the main players to achieve such a clarification. But this leaves the question of determining what the potential tasks of this Authority would be, and, more specifically, whether the fight against poverty should be explicitily one of those tasks.

Making fares affordable—improving productivity rather than offering targeted fare reductions

No matter how you approach the problem, action to raise the productivity of the urban transport system as a whole is needed, including rebuilding infrastructure, improving traffic flow, and making transport stops and road transit centers more efficient. Once again, these measures will benefit all users, but they should still be seen as part of the fight against poverty, as long as productivity gains lead to fare reductions for the poorest users.

The poor do not have equal access to all modes of transport for a variety of reasons. Action to raise productivity must therefore be aimed at a multimodal transport system and include several components: motorcycle taxis, shared taxis,

independently operated minibuses that can be part of a coordinated organization, buses operated by SOCATUR, and, eventually, rail mass transit.

In developed countries, the usual way to improve access to public transport for underprivileged segments of the population is to offer reduced fares or free travel. This type of approach does not seem feasible for Douala or other African cities, because it relies on administrative management of individual cases and means testing of potential beneficiaries. It is an approach that works in a formal economy, but most of African society relies on informal economic activities. Therefore, experiments with reduced fares for the poorest users should be regarded with skepticism or at least include strong safeguards to prevent them from being abused.

On the other hand, indirect action can have a helpful effect, especially action affecting the fare structure. More specifically, measures to introduce flat fares for the whole network obviously benefit users who live in the outer suburbs, many of whom are poor. But we must be careful about applying general principles without undertaking detailed analysis beforehand, since the situation varies from one city to another and the actual terms of the equalization that results from any fare policy need to be verified.

Safeguarding transport jobs and making them better

We have already seen that urban transport provides a great many jobs, probably accounting for close to 45,000 according to our estimates. The vehicles used have low carrying capacity and demand is constant, which means that even more jobs are created. The result is that independent transport operators create many jobs and some of these jobs can be filled by poor people with few skills. Public transport is directly involved in fighting poverty and enables young jobless people to enter the labor market. These types of job come in for some justified criticism, because they have many drawbacks, such as low pay and no social security. They also involve hard and tiring work, and workers are exposed to pollution and dangerous working conditions in some cases (the *bendskins*). But this type of criticism overlooks the essential fact that these jobs provide gainful employment and a minimum of social integration. Therefore, public transport's role as a provider of jobs needs to be recognized.

Action should be targeted first at independent operators, who need support and coordination. In any event, action should be aimed at improving working conditions in public transport and not simply eliminating jobs on the grounds of poor or dangerous working conditions. Training is critical, because it will promote positive developments in public transport by making some jobs more professional and more stable. The question that needs to be raised is how to achieve the right balance for actions relating to shared taxis as against *bendskins*.

At the same time, it should also be remembered that structured transport companies also create many jobs, even though it is harder for the poorest

segments of the population to meet the hiring requirements, which often include literacy and job skills.

On the other hand, it is not up to the bus companies or the independent operators to provide jobs for all of the unemployed, and hiring policies must be controlled so that the multiplication of jobs does not become counterproductive and cancel out efforts to organize the transport system.

6.4. ACTION TO MAKE BASIC SERVICES AVAILABLE LOCALLY

Meeting access needs does not only entail improvements to transport. It also requires making basic services and facilities of good quality available locally so that users can reach them easily on foot. More specifically, wider availability of public services would spare poor residents the dilemma of having to choose between public institutions that are often far away and of poor quality and private facilities that are closer, but prohibitively expensive.

These are important issues for urban productivity, as can be seen clearly in the case of access to water. Without asking for all residences to be connected to the city water supply, which would be beyond the means of government and households alike, improvements could be made to the network of standpipes in the outer suburbs and isolated areas that would reduce the burden of fetching water and probably provide cleaner water. The savings in time and effort are bound to improve living conditions for all members of households and promote the participation of women in paid work and school enrollment for children.

Such action could be considered after a detailed study of infrastructure shortcomings. It would require coordinated policy action by the government agencies concerned, and the study would have to encompass schools, healthcare centers, markets, and standpipes. This type of coordination is a prerequisite for proper consideration of physical conditions of access to this infrastructure in the design phase.

6.5. DEFINING MONITORING INDICATORS

We have seen that a program of action to reduce poverty by improving urban mobility could be expected to result in better accessibility, as well as quantitative and, more especially, qualitative improvements in the mobility of the poorest segments of the population. This requires action on transport in the broadest sense, including public transport and road networks, as well as action to make basic services available locally. Establishing indicators to monitor the effectiveness of an action program should make it possible to include mechanisms to adjust programs in response to the results obtained. It should also make it possible to set up a process for producing a steadier flow of information about urban mobility in Douala. However, there are many problems that cannot be overlooked:

- Inadequacy of the existing information system on transport supply and demand: information tends to be produced only when consultantsundertake transport studies, with no local memory or use of previous data.

- Faster urban sprawl, which affects overall monitoring indicators, since travel conditions and access to services are always worse in the newly urbanized fringe than in the more established areas. Urban sprawl also reduces the value of indicators based on a constant urban structure.

- The diversity of factors that affect mobility and the volatility of transport demand in response to economic developments make it more difficult to show the chain of cause and effect resulting from sectoral program implementation.

- The variety of access and poverty situations in the city and the relative diversity of social and economic groups in most neighborhoods make it difficult to select a simplified sample of households and/or survey areas and to develop representative aggregated indicators.

- There are practical problems in determining the income level of an individual or a household.

Under these circumstances, we recommend the use of simplified indicators that are cheap to produce and easy to interpret. Two types of indicators can be imagined, depending on the conditions for producing them.

The first set is made up of indicators based on the time and money required for access to major activity centers in the city. These indicators should be based on measurement of travel times and the actual fares charged for public transport to standard destinations chosen for their representativeness. The indicators must be capable of reproducing actual access conditions correctly, which means they must include trips made on foot. Improvement is measured by reduction in access times and/or costs, since the two may be contradictory: time may be saved by riding on public transport rather than walking, but this entails expenditure. The 2003 household survey, with prior selection of neighborhoods, is a helpful basis for selecting destinations. Data collection should combine surveys of transport users with surveys of transport operators, since the officially posted fares have little to do with the fares actually charged. However, collecting these data would not make it possible to evaluate changes in destinations and the reasons for such changes (for example, switching from a private school to a public school or from a distant healthcare center to a local facility). Access measurements cannot be comprehensive, but they could include:

- Costs and travel times from the district of residence to the city center and the central market, by public transport and during the morning peak period.

- Modal split and average travel time (with a breakdown between walking and public transport, if appropriate) from the district of residence to a set of public and private schools.

- Modal split and average travel time (with a breakdown between walking and public transport, if appropriate) from the district of residence to a set of public and private, primary and secondary healthcare centers.

A second set of indicators could be based on the mobility patterns of a set of households classified as poor. Improvement is measured by the proportion of persons whose situation has improved "adequately." This would entail simplified surveys of a subgroup of households selected from the survey areas of the 2003 household survey. Unfortunately, a full sample group appears unrealistic: the residential mobility of households is high, particularly among renters (their average tenure in a housing unit is slightly over 3 years, for more than half of all renters it is less than 2 years). However, we fear that the statistical representativeness requirements for measuring significant developments with reasonable confidence intervals would call for relatively large samples of several hundreds of households, which is ultimately fairly close to the size of the original sample. It is essential to develop a "standardized" questionnaire, using the lessons learned from the design of the 2003 questionnaire. In any event, the surveys would be a fairly substantial undertaking. Again, without being exhaustive, the practical measurements of the actual mobility of poor people could include:

- Walking times to the public transport stop actually used;
- Travel time and transport mode(s) from the home to the schools attended;
- Travel time and transport mode(s) from the home to the market used;
- Individual daily mobility and modal split;
- Individual total daily travel time budget and breakdown by mode;
- Individual and household transport expenditure;
- Budget share spent on transport by economically active people having a regular income.

We conclude with two precautions. First of all, it is not a good idea to interpret each indicator on its own, since it could be ambiguous as a result of the many interactions between supply and demand in the transport system. For example, improving the public transport system may lead to increased daily mobility, which in turn would increase overall household expenditure on transport. The mobility effect would be positive, but the cost effect would be negative, even though it is bound to be deemed tolerable. Therefore we recommend using a range of indicators to assess the effects that can be attributed to the action program.

Finally, some developments may be caused by external factors that have nothing to do with the inherent effectiveness of the action program. It is up to the consultants in charge of the information system to identify the potential influence of these factors. For example, improvements in costs also depend on fuel prices, regardless of any productivity gains in public transport.

ANTOINE Ph., RAZAFINDRAKOTO M., ROUBAUD F., 2001, Contraints de rester jeunes ? Évolution de l'insertion dans trois capitales africaines: Dakar, Yaoundé, Antananarivo. Autrepart, No. 18, pp. 17-36.

DIAZ OLVERA L., PLAT D., POCHET P., 1998, Villes africaines au quotidien. LET, 170 p. (Coll. Études et Recherches No. 9).

DIAZ OLVERA L., PLAT D., POCHET P., 2001, Dépenses de transport des ménages en Afrique subsaharienne. Méthodes et mesures appliquées au cas de Niamey. Recherche Transport Sécurité, No. 72, pp. 19-36.

DSCN, 2001, Projet prix CEMAC. Enquête sur les dépenses des ménages à Douala et à Yaoundé. (EDM 2000). Données sur la consommation finale des ménages. Direction de la Statistique et de la Comptabilité Nationale, Ministère de l'Économie et de Finances, République du Cameroun, 23 p.

DSCN, 2002, Projet prix CEMAC. Rapport général. Direction de la Statistique et de la Comptabilité Nationale, Ministère de l'Économie et de Finances, République du Cameroun, 40 p.

LE BRIS E., 1996, L'Afrique noire. In Th. PAQUOT (dir.), Le Monde des villes. Panorama urbain de la planète. Éditions Complexe, pp. 141-168.

MARIE A., 1997, Individualisation : entre communauté et société l'avènement du sujet. In A. MARIE (éd.), L'Afrique des individus. Karthala, pp. 407-436 (Coll. Hommes et Sociétés).

VUARIN R., 1994, L'argent et l'entregent. Cahiers des Sciences Humaines, Vol. 30, No. 1-2, pp. 255-273.

ANNEXES

ANNEX 1 : GENDER AND PLACE OF RESIDENCE OF CITY RESIDENTS INTERVIEWED

The qualitative interviews focused on 11 women (F) and 19 men (M), living in the Douala urbanized area:

Type 1: Districts near city center

- BONANJO (Facing the Dla-Ydé trunk road)	1 F	
- BONANJO (Nkondo I)	1 F	
- NEW BELL (Cemetery)		1 M
- AKWA (Bonadibong)	1 F	
- AKWA (Bonabekombo)		1 M

Type 2 : Inner ring

- BEPANDA (Omnisports)	1 F	
- BEPANDA (Petit Wouri)		1 M
- BEPANDA (Yoyong)		1 M
- BONADIWOTO		1 M
- MAKEPE (Yoyong)		1 M
- NDOGBONG (Nouvelle Route)	1 F	
- NDOGBONG (Vallée)		1 M
- NYLON BRAZZAVILLE		1 M
- NYLON TERGAL		1 M
- NYLON BARCELONE		1 M

Type 3 : Outer ring

- KM 12	1 F	
- LOGBABA		1 M
- LOGBESSOU	1 F	
- MAKEPE (Petit pays)		1 M
- MBANGUE		1 M
- NDOGPASSI (Kilometer post 10: Past market)	1 F	
- NDOGPASSI 2		1 M
- NYALLA		1 M
- NYALLA (Plateau)	1 F	

Type 4 : Right bank (Bonabéri)

- GRAND HANGAR (Bonabéri)	1 F /	3 M
- MABANDA (Bonabéri)	1 F /	1 M

ANNEX 2: HOUSEHOLD SURVEY QUESTIONNAIRE

SITRASS "Poverty–Mobility" Survey, Douala, October 2003. Household sheet

1. Household No. [ ] **2. Commune** ..... **3. District No.** [ ] **4. Zone** [ ]

5. Interviewer name ..... **6. Interviewer code** [ ] **7. Day of survey** Tu W Th F Sa Su **8. Date** [ ]

First name	9. No.	10. Gender 1. Male 2. Female	11. Position in household 1. Head 2. Spouse 3. Son / daughter 4. Father / mother 5. Brother / sister 6. Grandson / daughter 7. Other relative 8. Not related 9. Household emp.	12. Age *(full years)*	13. Marital status 1. Single 2. Married, monogamous 3. Married, polygamous 4. Divorced / separated 5. Widow(er)	14. Professional activity 1. Active employed 2. Student 3. Unemployed 4. Retired 5. Housewife 6. Other inactive	15. Contributes to household income 1. Yes, principal contributor 2. Yes, secondary contributor 3. No	16. Eligibility for survey 1. Eligible adult *(age 11 or over)* 2. Eligible child *(age 6-10)* 3. Adult absent for long periods *(please indicate reason)* 4. Ineligible
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							

17. Total no. of persons [ ] **18. No. of long-term absentees** [ ] **19. No. of adults to survey** [ ] **20. No. of children to survey** [ ]

Characteristics of housing

1. Subdivided lot
☐ 1. Yes ☐ 2. No

2. Housing type
☐ 1. Compound
☐ 2. Modern villa
☐ 3. Single-family home
☐ 4. Multi-unit housing
☐ 5. Multi-story structure

3. Number of rooms used as bedrooms ☐

4. Occupancy status
☐ 1. Owner
☐ 2. Rent free accommodation
☐ 3. Renter ➔ ***Question 6***
☐ 4. Other .....

5. What rent would you expect to pay for comparable housing in the district? ☐

6. What is the monthly rent? ☐

7. Walls of housing unit
☐ 1. Concrete / cinderblock / fired brick / stone block
☐ 2. Earthen / unfired brick / rammed earth
☐ 3. Sheet metal
☐ 4. Board
☐ 5. Carabot
☐ 6. Other .....

8. Roof of housing unit
☐ 1. Tile / slate
☐ 2. Concrete / cement
☐ 3. Sheet metal
☐ 4. Straw
☐ 5. Other .....

9. Water supply to housing unit / compound
☐ 1. Yes
☐ 2. No ➔ ***Question 11***

10. Is water service subject to interruption?
☐ 1. At least once a day
☐ 2. At least once a week
☐ 3. Less frequently
☐ 4. Never
☐ 5. Other .....

11. Supply of drinking water

Rank up to 3 responses

|__| 1. Indoor tap
|__| 2. Public tap / standpipe
|__| 3. Tap with neighbors
|__| 4. Borehole
|__| 5. Well
|__| 6. Spring
|__| 7. Vendor
|__| 8. River / lake / marsh
|__| 9. Other .....

12. How far from your home is the drinking water source that you use most often?

☐ 1. 0-50 m
☐ 2. 51-100 m
☐ 3. 101-300 m
☐ 4. 301 - 500 m
☐ 5. 501 - 1,000 m
☐ 6. 1,001 - 3,000 m
☐ 7. Over 3,000 m

13. How long does it take to get there on foot? ***(minutes)*** ☐

14. Who normally goes to fetch water?

Rank up to 3 responses

|__| 1. Head of household
|__| 2. Spouse / partner
|__| 3. Son
|__| 4. Daughter
|__| 5. Other relative (M)
|__| 6. Other relative (F)
|__| 7. Household employee (M)
|__| 8. Household employee (F)
|__| 9. Other .....

15. Is your housing located in a flood prone zone?
☐ 1. Yes
☐ 2. No ➔ ***Question 17***

16. During the last rainy season, was your housing unit flooded
☐ 1. Daily or almost daily
☐ 2. From time to time
☐ 3. Rarely
☐ 4. Never

Household equipment	Yes	No
17. Connection to electricity grid	☐	☐
18. Stove	☐	☐
19. Gas / oil ring	☐	☐
20. Radio	☐	☐
21. Television set	☐	☐
22. Refrigerator	☐	☐
23. Fan	☐	☐
24. Landline telephone	☐	☐
25. Mobile telephone	☐	☐

26. Do you, or does someone else in your household, have agricultural land or livestock that provide regular supplies of food products for household consumption?
☐ 1. Yes ☐ 2. No

Vehicles owned

27. Does someone in your household have access, as driver, to a (motorized or non-motorized) vehicle for his or her personal use?

☐ 1. Yes ☐ 2. No ➔ ***Question 37***

28. How many canoes are there? ____

29. How many hand carts are there? ____

30. How many bicycles are there? ____

31. How many private motorbikes and motor scooters are there? ____

32. How many private automobiles are there? ____

33. How many motorized passenger vehicles are there? ____

34. How many motorized cargo vehicles are there? ____

35. Which member(s) of the household own this (these) vehicle(s)?

Indicate a maximum of 5 numbers from the "Household Composition" table on the first page.

|____| |____| |____| |____| |____|

Opinions on household situation

36. In the past 12 months, have you experienced difficulties meeting the food requirements of your household?

☐ 1. Always ☐ 4. Rarely
☐ 2. Often ☐ 5. Never
☐ 3. Sometimes

37. How do you find the general economic situation of your household as compared to a year ago?

☐ 1. Much better now
☐ 2. Somewhat better now
☐ 3. No change
☐ 4. Somewhat worse now
☐ 5. Much worse now
☐ 6. Don't know

Change of residence of head of household

38. How long have you lived where you do now? ____

(number of years)

39. Where did you live before?

☐ 1. Same district ☐ 4. Another city
☐ 2. Neighboring district ☐ 5. In a village
☐ 3. Another district of Douala ☐ 6. Abroad

40. Why did you chose to live here?

Rank up to 3 responses

|___| 1. Improved housing
|___| 2. Cheaper / free rent
|___| 3. Living independently
|___| 4. Possibility of ownership
|___| 5. Better quality residential district
|___| 6. Safer / quieter residential district
|___| 7. Better transport services in district
|___| 8. Move closer to family / friends / neighbors
|___| 9. Move farther from family / friends / neighbors
|___| 10. Move closer to place of work
|___| 11. Move closer to schools
|___| 12. Have a room to devote to work
|___| 13. Did not have a choice
|___| 14. Other .....

Access to transport network

41. How long does it take you to walk from home to the nearest vehicle-accessible road? ____

(minutes)

42. What kind of road is it?

☐ 1. Paved ☐ 3. Dirt / laterite
☐ 2. Pozzolana / gravel ☐ 4. Other .....

43. Is this road accessible by vehicle year round?

☐ 1. Yes ➔ ***Question 46*** ☐ 2. No

44. For how many months a year is it not accessible by vehicles? ____

45. Why?

☐ 1. Flooding
☐ 2. Other .....

46. How long does it take you to walk from home to the public transport stop-off point that household members use most frequently? ____

(minutes)

Access to basic services

1. Type of basic service	**2. Do you (or someone else in your household) regularly use this service, for reasons other than professional ones?** 1. Yes, often 2. Yes, sometimes 3. No, never ➔ ***Question 6*** 4. Service not necessary, not applicable ➔ ***Next service***	**3. In what district is this service located?** ***(district code)***	**4. How do you (or another person in your household) normally go there?** 1. On foot 2. Bicycle 3. Priv. motorbike / scooter 4. Private automobile 5. Shared taxi 6. Undeclared cab 7. SOCATUR bus 8. Minibus 9. Light truck 10. *Bendskin* 11. Other	**5. Using this mode of transport, how long does it take you to get there from your home?** ***(minutes)***	**6. Do you have problems using this service?** ***Rank up to 3 responses*** 1. Too far away 2. Transport problem 3. Too expensive 4. Too much waiting time 5. Poor quality service 6. Shortage of specialty 7. Overcrowded classes / waiting rooms 8. Other problem :..... 9. No problem
1.1. Public primary school			|__| + |__| + |__| + |__|		|___| |___| |___|
1.2. Private primary school			|__| + |__| + |__| + |__|		|___| |___| |___|
1.3. Public secondary education			|__| + |__| + |__| + |__|		|___| |___| |___|
1.4. Private secondary education			|__| + |__| + |__| + |__|		|___| |___| |___|
1.5. Public health center / dispensary			|__| + |__| + |__| + |__|		|___| |___| |___|
1.6. Private health center / dispensary			|__| + |__| + |__| + |__|		|___| |___| |___|
1.7. Public hospital			|__| + |__| + |__| + |__|		|___| |___| |___|
1.8. Private hospital / clinic			|__| + |__| + |__| + |__|		|___| |___| |___|
1.9. Market for food products			|__| + |__| + |__| + |__|		|___| |___| |___|

Interviewer's comments

Supervisor's comments

INDIVIDUAL ADULT SHEET (AGE 11 AND UP)

1. Household No. ☐ **2. Commune** **3. District No.** ☐ **4. Zone** ☐

5. Interviewer's name ..... **6. Interviewer code** ☐

7. Individual's No. ☐ **8. Day of survey** Tu W Th F Sa Su **9. Date** ☐

Sociodemographic characteristics

10. Gender
☐ 1. Male ☐ 2. Female

11. Age ☐

12. Position
☐ 1. Head of household ☐ 4. Other relative
☐ 2. Spouse ☐ 5. Other .....
☐ 3. Child

13. Marital status
☐ 1. Single ☐ 4. Divorced / Separated
☐ 2. Married, monogamous ☐ 5. Widow(er)
☐ 3. Married, polygamous

14. Place of birth
☐ 1. Douala ☐ 2. Yaoundé ☐ 3. Village ☐ 4. Abroad

15. Nationality
☐ 1. Cameroonian ☐ 3. Other African
☐ 2. CAEMC/Nigeria ☐ 4. Other.....

Education

16. Can you read and write?
☐ 1. Yes ☐ 2. No → ***Question 19 next column***

17. In what language?
☐ 1. French ☐ 3. Arabic
☐ 2. English ☐ 4. Other.....

18. Level of education
☐ 1. None ☐ 4. Secondary—Cycle 2
☐ 2. Primary ☐ 5. Higher
☐ 3. Secondary—Cycle 1

19. Are you currently attending school?
☐ 1. Yes ☐ 2. No → ***Question 29***

20. Exact name of educational institution
.....

21. District of place of study *(district code)* ☐
.....

22. Customary mode(s) of travel from home to the educational institution
|___| + |___| + |___| + |___|.....
(mode codes)

23. Customary mode(s) for returning home
|___| + |___| + |___| + |___|.....
(mode codes)

24. Average time required for travel from home to the educational institution ☐
(minutes)

25. Average time required to return home ☐
(minutes)

26. Do you normally have classes in both the morning and afternoon?
☐ 1. Yes ☐ 2. No → ***Question 29***

27. Do you return home for lunch?
☐ 1. Yes, always
☐ 2. Yes, sometimes ☐ 3. No, never

28. Why? ***Rank up to 3 responses***
|__| 1. No break in day |__| 5. Waiting time too long
|__| 2. Too far |__| 6. Too tiring
|__| 3. Not enough time |__| 7. Other .....
|__| 4. Cost of transport

Professional activity

29. Have you been gainfully employed (in cash or in kind) in the past 30 days?

☐ 1. Yes ☐ 2. No ➔ ***Question 32***

30. Is this a permanent job?

☐ 1. Yes ☐ 2. No

31. Are you a salaried employee?

☐ 1. Yes ☐ 2. No ➔ ***Question 33***

32. Are you

☐ 1. Unemployed?
☐ 2. Retired
➔ ***Question 33***

☐ 3. A student?
☐ 4. A housewife?
☐ 5. Otherwise not employed?
➔ ***Question 50 on next page***

33. What is (was) your principal activity?

.....

34. What is (was) your function?

☐ 1. Employer
☐ 2. Self-employed
☐ 3. Senior manager / engineer
☐ 4. Middle manager / foreman
☐ 5. Skilled clerk / worker
☐ 6. Unskilled clerk / worker
☐ 7. Vendor
☐ 8. Driver
☐ 9. Day laborer / piece-worker
☐ 10. Apprentice
☐ 11. Family help
☐ 12. Household employee
☐ 13. Other .....

35. In what sector of activity are (were) you employed?

☐ 1. Agriculture / livestock
☐ 2. Construction, public works
☐ 3. Industry
☐ 4. Public and parapublic sector
☐ 5. Services
☐ 6. Transportation
☐ 7. Retail trade
☐ 8. Wholesale trade
☐ 9. Other .....

36. Do you have other activities that generate income in cash or in kind?

☐ 1. Yes ☐ 2. No ➔ ***Question 39***

37. How many? ☐

38. What are these activities?

(1) .....
(2) .....
(3) .....

For persons currently engaged in professional activity:

39. For how long have you been engaged in this activity? ***(number of years)*** ☐

40. How many months did you work out of the past 12 months? ☐

41. How many days did you work out of the past 30 days? ☐

42. Principal place of activity

☐ 1. At home ➔ ***Question 50***
☐ 2. Fixed location, in home district ➔ ***Question 44***
☐ 3. Fixed location, elsewhere
☐ 4. Itinerant, in home district
☐ 5. Itinerant, elsewhere
☐ 6. Other .....
➔ ***Q. 44***

43. District or specific location of workplace ***(district code)*** ☐

.....

44. Customary mode(s) of travel from home to work

|___| + |___| + |___| + |___|.....
(mode codes)

45. Customary mode(s) of travel for returning home

|___| + |___| + |___| + |___|.....
(mode codes)

46. Average time required to go from home to work ***(minutes)*** ☐

47. Average time required to return home ***(minutes)*** ☐

48. During the workday (daylight hours), do you return home for lunch?

☐ 1. Yes, always
☐ 2. Yes, occasionally
➔ ***Question 50***

☐ 3. No, never
☐ 4. Not applicable
➔ ***Question 49***

49. Why? ***(Rank up to 3 responses)***

|__| 1. No break in day
|__| 2. Too far
|__| 3. Not enough time
|__| 4. Cost of transport
|__| 5. Waiting time too long
|__| 6. Too tiring
|__| 7. Other .....

Individual monetary resources

50. Over the past year, how has your personal situation changed in terms of income?

☐ 1. Favorably ☐ 2. Unfavorably ☐ 3. No change ☐ 4. Not applicable ☐ 5. Don't know

No.	**Type of monetary resources** ***(CFA francs)***	**Do you receive...** 1. Yes 2. No	**Periodicity** 1. Daily 2. Weekly 3. Monthly 4. Quarterly 5. Half-yearly 6. Annually 7. Other	**Amount**
51.	**Wages / salary / profit from principal activity**			
52.	**Wages / salary / profit from secondary activity (activities)**			
53.	**Wages / salary / profit from other professional activities**			
54.	*Total professional income (51+52+53)*			
55.	**Rents**			
56.	**Grants, gifts, alimony, allowances (from persons outside household)**			
57.	**Family allowances, pensions, scholarships**			
58.	**Other**.....			
59.	*Total other income (55+56+57+58)*			
60.	*Total individual income (54+59)*			

Transport equipment and access to individual transport

61. Do you own or have access, as driver, to one or more household vehicles (motorized and non-motorized)?

☐ 1. Yes ➔ **62. How many motorized vehicles in all?** ____

63. How many non-motorized vehicles in all? ____

☐ 2. No ➔ ***Question 75 next page***

For each vehicle, indicate: ***(if more than two vehicles, chose the two used most often)***	**Vehicle 1**	**Vehicle 2**
64. Type de vehicle **1**. Canoe / boat **2**. Hand cart **3**. Bicycle **4**. Motorcycle / scooter **5**. Automobile **6**. Other.....		
65. Vehicle currently in operable condition? **1**. Yes **2**. No, temporary breakdown **3**. No, inoperable ➔ ***Next column or question 75***		
66. Vehicle ownership **1**. You are the owner and user **2**. You are the owner but never use it **3**. You are not the owner but are a user		
67. Vehicle usage **1**. Solely for private use **3.** Solely for commercial use **2**. Mixed private and business usage ➔ ***Next column or question 75***		
68. Availability of vehicle **1**. Always **2**. Occasional		
69. Vehicle status when purchased **1**. New **2**. Used **3**. Don't know		
70. Year of purchase of vehicle		
71. Purchase price of vehicle ***(CFA francs)***		
72. Fuel costs ***(CFA francs / month)***		
73. Maintenance, repairs ***(CFA francs / year)***		
74. Insurance, licensing ***(CFA francs / year)***		

75. Do you have access as driver to a vehicle owned by someone outside the household (family, friend, neighbor, employer, etc.)?

☐ 1. Yes, permanent access to a bicycle
☐ 2. Yes, permanent access to a motorcycle
☐ 3. Yes, permanent access to an automobile
☐ 4. Yes, occasional access to a bicycle
☐ 5. Yes, occasional access to a motorcycle
☐ 6. Yes, occasional access to an auto
☐ 7. No

76. Do you have access as a passenger to a vehicle owned by someone outside the household?

☐ 1. Yes, permanent access to a bicycle
☐ 2. Yes, permanent access to a motorcycle
☐ 3. Yes, permanent access to an automobile
☐ 4. Yes, occasional access to a bicycle
☐ 5. Yes, occasional access to a motorcycle
☐ 6. Yes, occasional access to an auto
☐ 7. No

Use of public transport

77. Do you use public transport?

☐ 1. Yes, daily or almost daily
☐ 2. Yes, occasionally
☐ 3. No, never ➔ ***Question 94***

In the past 7 days, how many times have you taken a...	Number of trips in past 7 days	Amount spent in past 7 days
78. Shared taxi		
79. Undeclared cab		
80. SOCATUR bus		
81. Minibus		
82. Light truck		
83. *Bendskin*		

Opinions on transport

	Mode 1	Mode 2
84. What are the two modes of public transport that you use most frequently? **1**. Shared taxi **2**. Undeclared cab **3**. SOCATUR bus **4**. Minibus **5.** Light truck **6.** *Bendskin*		
Regarding these modes, would you say that you: **1**. Agree **2**. No opinion **3**. Disagree **4**. Don't know		
85. It is cheap		
86. It stops near my home		
87. I don't have to wait too long		
88. I can get a ride anytime		
89. It takes me wherever I want to go		
90. It is fast		
91. I am not going to get into a road accident		
92. I feel safe from assault or theft		
93. I can carry my merchandise on it		

94. When you travel on foot, what is the most bothersome?

|___| **|___|** **|___|** ***Indicate up to 3 responses from the 8 proposed***

1. Obstruction of sidewalks
2. Poor repair or lack of sidewalks
3. Poor condition of roads
4. The lack of lighting at night
5. The risk of road accidents
6. The risk of assault
7. Bad smells, garbage, filth
8. Poor condition of drainage system

95. When you travel on foot, do you carry heavy loads (over 5 kilograms)?

☐ 1. Yes, daily or almost daily ☐ 2. Yes, occasionally ☐ 3. No, never

Social activities

Do you participate in the following community activities?

96. Community associations ☐ 1. Yes ☐ 2. No

97. *Tontines* ☐ 1. Yes ☐ 2. No

98. Other group activities ☐ 1. Yes ☐ 2. No

With those in your neighborhood, do you share:

99. Occasional passenger or cargo transport? ☐ 1. Yes ☐ 2. No

100. Fields, livestock, or purchases of food products? ☐ 1. Yes ☐ 2. No

101. How would you characterize the degree of social harmony in your neighborhood?

☐ 1. Good
☐ 2. Neither good nor bad
☐ 3. Bad
☐ 4. No dealings with the neighbors
☐ 5. Don't know

102. When the need arises, are there any persons outside the household in a position to help you?

☐ 1. Yes ➔ **103. How many?** ☐

☐ 2. No ➔ ***Go to the section on "Travel of the previous day (next page)***

From among these persons, describe for us the two on whom you can rely on the most

	1st person	**2nd person**
104. Is this person **1**. Male **2**. Female		
105. Is this person **1**. A family member **2**. A friend **3**. A colleague **4**. Other.....		
106. In relation to yourself, is this person **1**. Older **2**. Roughly the same age **3**. Younger **4**. Don't know		
107. Compared to your own, is this person's income level **1**. Higher **2**. About the same **3**. Lower **4**. Don't know		
108. Does this person live in the same district as you? **1**. Yes **2**. No **3**. Don't know		
109. What is the nature of this help? ***Rank up to 3 responses*** **1**. Financial **2**. Material **3**. Labor / Activity **4**. Other.....	|___| |___| |___|	|___| |___| |___|

INTERVIEWER'S COMMENTS

SUPERVISOR'S COMMENTS

Travel the day before

For employed persons and students: **1. Were you on holidays or in leave yesterday?** ☐ 1. Yes ☐ 2. No

For all: **2. Did you go out of the home yesterday?** ☐ 1. Yes ☐ 2. No ➔ **3. Why?** ☐ 1. Ill / handicapped ☐ 2. Religious reasons or custom ☐ 3. No reason to go anywhere ☐ 4. Other .....

No. of trips	Starting point *(district code)*	Starting time	Destination *(district code)*	Arrival time	Duration *(min)*	Purpose *(trip purpose code)*	No. of legs	Mode 1st leg	Mode 2nd leg	Mode 3rd leg	Mode 4th leg	Total cost *(CFAF)*	Who paid for trip?
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

Total number of trips ☐

Trip purpose		Mode of travel		Who paid for trip?
1. Regular job	12. Meal away from home	1. On foot	9. Undeclared taxi	1. Yourself
2. Other professional reason	13. Visit to family	2. Bicycle	10. SOCATUR bus	2. Someone else in household
3. Secondary, work-related	14. Visit to friends	3. Canoe	11. Minibus	3. Employer
4. Job seeking	15. Visit to neighbors	4. Motorbike / cycle, driver	12. Light truck	4. Other .....
5. Study	16. Prayer / Religion	5. Motorbike / cycle, passenger	13. *Bendskin*	
6. Food purchases	17. Ceremonies	6. Private automobile, driver	14. Shuttle bus service from employer	
7. Nonfood purchases	18. Association	7. Private automobile, passenger	15. Intercity bus	
8. Administrative proceedings	19. Sports / leisure activities	8. Shared taxi	16. Other	
9. Services	20. Escorting			
10. Health	21. Return home			
11. Other household-related reason	22. Other			

Responses of father, mother, or other adult in household

1. Household No. ☐ **2. Commune** **3. District No.** ☐ **4. Zone** ☐

5. Interviewer name ..... **6. Interviewer code** ☐ **7. Day of survey** M Tu W Th F Sa Su

8. Date ☐ **9. Child No.** ☐ **10. No. of respondent individual** ☐

Characteristics of child

11. Age of child ☐

12. Gender

☐ 1. Boy ☐ 2. Girl

The child and school

13. Is the child attending school this year?

☐ 1. Yes ➔ ***Question 15*** ☐ 2. No

14. Why? ***Rank up to 3 responses and then go to question 25***

1. Too young |___|
2. Tuition is too expensive |___|
3. The school is too far away |___|
4. Problem with transport |___|
5. Transport costs are too high |___|
6. Poor school performance / failed the exam |___|
7. Need his/her help for household chores |___|
8. Need his/her help for other activities |___|
9. Ill / handicapped |___|
10. It serves no purpose for her or him to attend school |___|
11. Other ..... |___|

15. Name of educational institution .....
.....

16. Is this institution

☐ 1. Public ☐ 2. Private ☐ 3. Other .....

17. Location of school ***(district code)***

.....

18. Customary mode of transport for going to school

|___| + |___| + |___| + |___| .....
(mode codes)

19. Customary mode of transport for returning home after school

|___| + |___| + |___| + |___| .....
(mode codes)

20. Time required to travel from home to school? ***(minutes)*** ☐

21. Time required to return frame school to home?*(minutes)* ☐

22. Does he/she attend school in the morning AND afternoon?

☐ 1. Yes ☐ 2. No ➔ ***Question 25***

23. Does she/he return home for lunch?

☐ 1. Yes, always
☐ 2. Yes, occasionally
☐ 3. No, never

Question 25

24. Why? ***Rank up to 3 responses***

|__| 1. No break in day
|__| 2. Too far
|__| 3. Not enough time
|__| 4. Cost of transport
|__| 5. Waiting time too long
|__| 6. Too tiring
|__| 7. Other .....

The child and work

25. Has the child been engaged in gainful employment (in cash or in kind) on his or her own behalf, for a household member, or for the household as a whole, in the past 30 days?

☐ 1. Yes ☐ 2. No ➔ ***Question 46***

26. For how long has he/she been working? ☐ ***(years)***

27. Nature of child's employment activity.....
.....

28. Is it a permanent job?

☐ 1. Yes ☐ 2. No

29. Is the child salaried?

☐ 1. Yes ☐ 2. No

30. What is the child's function?

☐ 1. Self-employed
☐ 2. Clerk / worker
☐ 4. Vendor
☐ 5. Laborer / piece-worker
☐ 6. Apprentice
☐ 7. Family help
☐ 8. Household employee
☐ 9. Other .....

31. What is her/his sector of activity?

- ☐ 1. Agriculture
- ☐ 2. Construction, public works
- ☐ 3. Industry
- ☐ 4. Public and parapublic sector
- ☐ 5. Services
- ☐ 6. Transportation
- ☐ 7. Retail trade
- ☐ 8. Wholesale trade
- ☐ 9. Other .....

32. What is the frequency of this work?

☐ 1. Regular ↓ ☐ 2. Irregular / occasional → ***Question 34***

33. Indicate frequency

- ☐ 1. Daily
- ☐ 2. Monday to Friday
- ☐ 3. Monday to Saturday
- ☐ 4. On weekends
- ☐ 5. Other .....

34. Where is the activity carried out?

- ☐ 1. At home → ***Question 40***
- ☐ 2. Fixed location in home district → ***Question 36***
- ☐ 3. Fixed location elsewhere ↓
- ☐ 4. Itinerant in home district
- ☐ 5. Itinerant elsewhere
- ☐ 6. Other .....

→ ***Q. 36***

35. Location of work ***(district code)***

.....

36. Customary mode(s) of travel to work

|___| + |___| + |___| + |___| ..... ***(mode codes)***

37. Customary mode(s) of travel for returning from work

|___| + |___| + |___| + |___| ..... ***(mode codes)***

38. Average time for going from home to work ***(minutes)*** ☐☐☐

39. Average time for returning home ***(minutes)*** ☐☐☐

40. Is this an income-generating activity?

☐ 1. Yes → **41. Amount** ***(CFAF)*** ☐☐☐☐☐☐

42. Periodicity..... ***(day /week /month)***

☐ 2. No → ***Question 46***

43. Is the child's income used for household expenses?

☐ 1. Yes ↓ ☐ 2. No

44. Specify the usage

- ☐ 1. The income supplements the household
- ☐ 2. The income is used for a specific purpose ↓
- ☐ 3. Other.....

45. Which .....

Other activities

The child makes any trips unaccompanied by an adult for the following reasons	**Frequency** 1. Several times a day 2. Every or almost every day 3. At least once a week 4. Less often 5. Never	**Destination** 1. District of residence 2. Elsewhere	**Customary mode of travel** 1. On foot 2. Bicycle 3. Public transport 4. Other.....
46. Fetching water			
47. Finding wood or some other fuel			
48. Discarding household trash or waste water			
49. Shopping for food			
50. Running other errands			
51. Visiting family or friends			
52. Taking action or shopping in the context of the professional activity of a household member			

INTERVIEWER'S COMMENTS	**SUPERVISOR'S COMMENTS**

ANNEX 3: OVERVIEW OF CONDUCTING THE HOUSEHOLD SURVEY AND EVALUATION OF THE QUESTIONNAIRES

We will first offer a few thoughts on the conduct of the field work (1.) and then provide some initial quantitative assessments with respect to the samples obtained (2.), for both Douala and Conakry.

Using the questionnaires for a full-scale quantitative household survey made it possible to identify a number of flaws (missing items, difficulties, ambiguities, etc.) which did not appear during the test phase, which, of necessity, was narrower in scope. The remarks which follow (3. to 5.) thus refer to specific questions, referenced by their numbers in the questionnaires (which are provided in their final versions in Annex 2). Taking these remarks into account would enhance the relevance of the responses obtained from those surveyed, but in most cases it would also be reflected in a more complicated questionnaire. A middle ground should therefore be sought for taking such changes into account in a possible later survey.

Reference to the questionnaires contained in Annex 2 is of value.

1. CONDUCT OF FIELD WORK

Training for interviewers and supervisors was held in Conakry from September 30 to October 2 and in Douala from October 1 to 3. Because the training began one day earlier in Conakry it was possible to send e-mail to Douala each evening containing information on the topics or questions that appeared to be the most problematical. On the third day of training, all the interviewers took a two-hour test made up of four exercises on the most important and most sensitive parts of the questionnaire: travel, profession and income, household composition, and trip purpose. In both cities, thirty interviewers were selected from the 34 (Conakry) or 32 (Douala) candidates who took the training. For reasons of practical organization specific to each city, there were 6 supervisors selected in Conakry and 5 in Douala.

The geographical distribution of the interviewers and supervisors met multiple objectives:

1. Insofar as possible, to limit the amount of unproductive travel time by both groups (taking their place of residence into account);

2. In Conakry, to limit the problems of questionnaire translation and comprehension depending on the languages spoken in each district: Sousou (the most widespread), Poular (spoken primarily by the Peuls), and Maninka (spoken by the Malinkés);

3. Again in Conakry, the problems associated with survey administration among women in districts where fundamentalist Islam is widespread

(Hamdallaye, Koloma, and especially Wanidara) prompted us to select a female rather than male interviewer whenever it was possible to do so (especially for Wanidara).

4. Finally, in Douala, at the request of interviewers and supervisors alike, the interviewers systematically worked in pairs in each district.[13] This was done to limit the risks associated with the lack of security in some districts.

The interviewers were placed in their zones in Conakry on October 3 (and partly on October 4) and in Douala on October 4, with instructions to avoid housing units that showed obvious external signs of wealth.

A first overall stock-taking exercise (review of a number of common problems, "correction" of the first questionnaires with each interviewer, etc.) took place on Monday, October 6, after one or two days of survey administration. In both cities, periodic meetings were subsequently held with all the personnel, at least once a week on Mondays, the day when there was no field work to be performed since we were not asking about mobility on Sundays.

The last filled in questionnaires were turned over to the chief researchers on October 22, in both Conakry and Douala.

In general, the survey staff were fully satisfactory. In both cities there was a good level of understanding, and "professional," interviewers had prior knowledge of general questioning (for example on household composition and on employment status). However, it proved difficult, at least for some, to pick up concepts that were more specifically transport-related: this is especially the case, in the section on travel, of the distinction between a leg or segment of a trip and the trip itself. The training phase is thus essential in order to familiarize survey personnel with these concepts, and it is advisable to devote considerable time to this task. This training time could be used to good advantage later by the "professional" interviewers in the event they had the opportunity to conduct other targeted surveys or if certain more general surveys were to devote particular attention to transport issues.

During the field work, daily communication with the survey personnel was difficult given that transport problems are pronounced and that the telephone system functions poorly or not at all, and is not sufficiently widespread because it is too costly. The supervisor's systematic involvement in conveying questionnaires to and from the interviewers and the chief researchers may thus slow the proper conduct of the survey, especially if the supervisor fails to examine the questionnaires thoroughly before passing them on to the chief researchers.

All in all, the interviewers were well received in the households, although it was not always easy to survey every individual over the age of 10 even after repeated visits, particularly in the large households (sometimes as many as 20 persons).

[13] Each pair was thus assigned two districts where they surveyed successively.

The major reasons for absence from the household or for non-response are: people staying in the village, either to work the fields or for reasons of health, illness, or advanced age; individuals who failed to attend the interview several times, and finally some refusals. It must be mentioned that interviewees (especially in Conakry) showed some kind of resignation by deploring the lack of change if not deterioration in their situation despite the large number of surveys on poverty and living conditions to which they or those close to them had responded (related information is set forth in the "Interviewer's comments" section of the questionnaires).

It bears noting that the new school year began in Conakry in the week of October 6, first for primary school and then for the middle and secondary schools. The academic year for university studies was not scheduled to begin until early November. Consequently, travel for education is slightly underestimated in that city as compared to an "average" school period.

2. SAMPLES OBTAINED

In both cities, the surveys were conducted in the 30 selected areas.

There were 626 households surveyed in Conakry and 600 in Douala. They represent 4,533 and 2,739 individuals, respectively. Of these, 2,703 persons in Conakry and 1,885 in Douala provided information for the *Individual* questionnaire (92 percent and 96 percent of the individuals age 11 and over, respectively). The *Child* questionnaire was used for 842 individuals aged 6 to 10 (99 percent) in Conakry and 349 (100 percent) in Douala. The differences in the scale of the samples between the two cities are attributable to quite concrete sociodemographic differences. These were in fact quite clear from earlier surveys, and the sizes of the households surveyed are consistent with the information available to us, and with the number of "adults" completing the *Individual* questionnaire.

There were 10,056 trips identified in Conakry and 8,474 in Douala, that is, in terms of average urban mobility, 3.7 and 4.5 trips per person and per day (including a small share of trips outside the urban area) in Conakry and Douala, respectively.

3. HOUSEHOLD SHEET

For this evaluation of the questionnaires, the reader is invited to make reference as necessary to the survey questionnaire provided in Annex 2. For each sheet of the household survey questionnaire, we will begin with any general comments that may be appropriate and then will address, section by section, questions that call for remarks. We conclude with proposals for additional questions.

3.1. Existing questions

Household Composition section

It is not always easy for the interviewers to fill out the form by strictly sequencing individuals according to their relationship to the head of household, as indicated in the manual. Mentioning the individual's father, mother, and spouse by his/her corresponding number in the list may help make it possible not to observe this order too strictly. However, this information, which considerably slows down completion of the questionnaire, is not necessarily essential.

Q. 13 led to discussions during the training of the interviewers, and did so in both cities. The indication "Married, polygamous" refers to the real status of the individual, not to a legal status gained at the time of the marriage ("under the polygamy regime"): the man or woman falls into this category if he or she has, respectively, several wives or at least one fellow wife.

Obtaining information about Q. 15 is sometimes difficult, especially as regards the differences between a principal or secondary contributor, and the distinction between whether or not the respondent has his or her own income and does or does not make a portion of this income available to benefit the household.

Characteristics of housing section

There is hesitation as to whether or not the lot is subdivided (Q. 1).

For Q. 11, "Vendor" should be replaced by "Itinerant vendor" (response 7) in order to draw a distinction from purchases made in a store.

For Q. 12 to Q. 14, there should either be a breakout at the end of Q. 11 in the case of an indoor tap, or an indication that the reference is to water supply in the event of a "breakdown." As the questionnaire now stands, not all interviewers reacted the same way, necessitating some adjustments.

For Q. 13, after processing it would appear that some responses reflect in fact the total time devoted to the activity (going, waiting, purchasing, returning). If the aim is to learn the exact time requirement for the activity, it should be made clear in the question that the reference is only to the travel time to go there.

Vehicles Owned section

For Q. 27, the current formulation is complex and restrictive, with potential risks of error. The question actually pertains to vehicles to which one has access as a driver for personal use: access/own, driver/passenger, personal use/mixed use.

Residential History of Head of Household section

For Q. 39 and Q. 40, there is a problem with individuals who have never left the residence they grew up in. There should either be a breakout in Q. 38 (but this calls for care, because then the interviewer has to refer back to the first page

showing the age of the head of household), or consideration should be given to including an additional response in order to take this situation into account.

For Q. 40, a separate response for "Marriage" (for female heads of household who moved there to join their husband) should be provided.

Access to Transport Network section

In Q. 44, it is sometimes difficult to evaluate the number of months if the phenomenon is intermittent (in the event of extremely heavy rainfall, for example). It may perhaps be necessary to revisit this question together with Q. 45.

Access to Basic Services section

In Q. 4, there should not be a nomenclature of specific modes that differs from the one used in the travel section of the Individual adult sheet.

In Q. 5, two kinds of problems arise as regards evaluating the time requirement: (i) what should be put down if several individuals make use of the same service? (Furthemore, this remark also applies to the use of mode of travel in Q. 4) (ii) The value recorded corresponds to the respondent's perception, and hence not necessarily to the time actually spent by users, giving rise to possible discrepancies with the responses in the *Individual* questionnaires.

3.2. Questions to be added

If there is no specific questionnaire for District Heads, a Supervisor code should be provided in the header.

Language(s) in which the interview was conducted.

4. SHEET ON EACH INDIVIDUAL (AGE 11 AND UP)

4.1. General remarks

It is unfortunate that the same information is not gathered systematically in the Individual questionnaire and the Child questionnaire, making it impossible to "track" certain phenomena over time: for example, the nature of the school (public/private), participation in various activities (see the final section of the Child questionnaire), or, as the pendant for education level, the fact of knowing how to read and/or write (and in what languages). This initial choice was made with the aim of not increasing the length of the questionnaires.

4.2. Existing questions

Education section

In Q. 28, make it more clear to interviewers that "No break in day" (reply 1) is a response that is sufficient by itself, and that therefore it is not necessary to add further responses.

Professional activity section

Q. 29 is sometimes ambiguous (as regards the status of apprentices, for example, as some pay the master for the apprenticeship period). The 30 day period is sometimes restrictive, particularly for individuals with highly episodic jobs. It is, of course, preferable to using a 7-day period (a common definition) when the focus is not on employment, underemployment, or unemployment, but rather on potential income sources.

The concept of a "permanent" job should be clarified (Q. 30).

Q. 36, Q. 37, and Q. 38 on secondary activities yielded interesting results, but there is no subsection on the frequency or duration of such activities so as to be able to reconstitute annual compensation using the Individual Monetary Resourcessection. Precise information on this would be particularly valuable when the income derived from the secondary activity constitutes daily or weekly payments, which is frequently the case for small-scale activities of this kind.

In Q. 42 (place of work), there is no provision for a reply of "Mixed," an intermediate position between an itinerant job and a job in a fixed location, such as for drivers whose vehicles are garaged away from their residence and who must therefore go retrieve them before starting their work day (and also bring them back in the evening). A code 7, "Mixed," was therefore added after the survey, before the data input.

Individual monetary resources section

The recording of income data appears to have gone rather well. In particular, the breakdown in Q. 56 to Q. 58 makes it possible to gather information that is frequently lacking when these other income sources are not listed separately. However, the problems with gathering income data have obviously not all been resolved. Of particular note is the difference between profits and turnover, despite the fact that particular emphasis was placed on this issue during the training of the field personnel and one question of the selection examination was partly devoted to it. Moreover, the periodicity response "Other" (reply 7) is used too frequently by some interviewers, which makes it complicated to reconstitute an annual income figure.

Transport equipment and access to individual transport section

For Q. 76, it should be clarified during training that this does not involve the usage of a public transport vehicle as a passenger, but instead refers to access to

a vehicle owned by another household (for example, use of a friend's motorcycle and not taking a *bendskin*).

Use of public transport section

In Q. 77, the distinction of degree between the two usage patterns (reply 1 "Yes, daily or almost daily" and 2 "Yes, occasionally") may not be useful and was not always properly understood. It could be eliminated, but sometimes does appear to be of value for purposes of determining expenditure on public transport.

For Q. 78 to Q. 83, some interviewers broke down the calculation of amounts spent, which could be systematized in the questionnaire in order to help them reconstitute the weekly sum. The number of trips is extremely valuable for verifying the plausibility of the spending level, and some additional information could perhaps be sought.

For Q. 78 to Q. 83, it is important in the training process to emphasize, more clearly than was done in the two cities, that the past 7 days of course include the day before (making the range consistent with the Travel section).

Social activities section

Q. 99 and Q. 100 would be more appropriately placed in the Household questionnaire. Be that as it may, as in the case of Q. 101, they probably should not be asked to every individual: consideration should be given to applying an age limit or restricting them to the head of household and spouse(s).

An effort should be made to ensure consistency between the responses to Q. 102 to Q. 109 and those on nonprofessional income in the "Individual Monetary Ressources" section.

In Q. 105, allow for a reply reading "Neighbor."

In Q. 109, allow for a reply reading "Moral support," which was frequently cited in Douala in the category "Other."

Travel section

The listing of individual trips, which we heavily stressed during the training sessions, posed no particular difficulties. The instructions appear to have been followed quite well. The question of the cost of travel in public transport proved quite valuable as a way of testing the reliability of expenditure over the past seven days.

In Q. 1, explain the term "leave" and specify more clearly which kind.

In Q. 2, split the reply "Ill/handicapped" into two possible responses.

In the list of trip purpose, add the replies "Purchasing/fetching water" and "Itinerant labor."

4.3. Questions to be added

Language(s) in which the interview was conducted.

5. CHILD (AGES 6-10) SHEET

5.1. General remarks

It was difficult to obtain information on children's work, which is nonetheless visible in the streets but seems rarely to be reported to interviewers (this problem was encountered more in Douala than in Conakry). This may be partially attributable to the fact that children who are working are not all in households, and a fair number of them live and work in the shops, in the markets, and hence are part of a population that is not covered by the survey. Perhaps there is also some reluctance on the part of adults to acknowledge this situation. It is probably worth considering a means of gathering additional data for this specific question in the future.

5.2. Existing questions

The questions from The child and work section were rarely answered and are difficult to evaluate, which is unfortunate as regards the questions on income (Q. 40 to Q. 45).

5.3. Questions to be added

Language(s) in which the interview was conducted.

The selection of the zones covered by the quantitative survey is based, in each city, on the construction beforehand of typologies of the neighborhoods that are more or less strongly characterized by the prevalence of poor households, which for our purposes are those in the first income quartile. We first review the available data, then present the methodology for determining the typology of the districts.

1. THE DATA AVAILABLE AND THEIR LIMITATIONS

Recent data are noticeably more ample for Douala than for Conakry. A survey on household expenditure in Yaoundé and Douala was conducted in 2000, the Cameroon household survey (ECAM II) dates from 2001, and the Yaoundé and Douala Living Conditions survey (Cavie) from 2002. The pros and cons of the three surveys are nonetheless markedly different.

The aim of the first two surveys was to obtain data on how the households surveyed spent their money (1,000 households in the Expenditure survey, 1,200 in the ECAM II survey), but the expenditure statement in the expenditure survey was more detailed. The third survey is restricted to a declaration of individual income, broken down into earned income and other incomes, using a six-category grid, but this time the sample is more substantial and it concerns 7,500 Douala households. Each of these surveys also yields information on the consumer durables owned by the household as well as on housing conditions.

The problems related to spatial identification/selection of enumeration areas (EAs) are quite similar to those encountered in the case of Conakry, i.e. a small sample per EA; varying degrees of success in precisely pinpointing the location of each enumeration area; difficulty to match different spatial divisions. In addition, there were marked differences in gaining access to this spatial information, which is quite good for Cavie but limited or nonexistent for the two other surveys. We would also note, once again in Cavie's favor , that though the sample "unit" sizes, i. e. the number of households surveyed per EA) remain small (though the amount of 30 households per area, is rather in the top end of the normal range), the large number of such enumeration areas, numbering 250, allows for significantly better coverage of the urban space than in the two other surveys.

Clearly these different surveys complement one another, and no one of them could cover all our needs. We therefore opted for the Expenditure 2000 survey and the Living Conditions 2002 survey. The first one provides a fine breakdown of expenditure but lacks any spatial anchoring which would be valuable for assessing how much of household budgets is spent on transport (the corresponding analyses are presented in the first part of the Technical Report). Cavie, with its fine spatial delimitation and income itemization (though not the

best), allowed to identify the areas in which the poor population groups, i. e. those in the first quartile, are overrepresented.

2. THE METHOD FOR DEVELOPING ZONE TYPOLOGY

Developing a typology of districts proved to be easier for Douala than for Conakry, as the available data were better suited to the task. This was evident in two ways. Firstly, a quantitative indicator of each household's income can be easily defined, though it still contains some flaws and rough estimates.[14] It is therefore possible to rank the ZDs directly according to their relative share of poor households from the first quartile. Secondly, the large number of these enumeration areas makes it possible to better pinpoint the poorest subsets in each district.

Based on the individual incomes recorded per class, we recalculated an annual income for each person interviewed using the method employed by the DSCN (standardized reporting of the income declared at the center of the reporting category, sum of earned income and other income). Total household income is the sum of all incomes of the individuals in the household, while per capita income, used to define the quartiles, is subsequently determined by dividing total income by total household size.

The five arrondissements that make up Douala are more or less the same as regards the prevalence of poor population groups: the first quartile accounts for a low of 20 percent in Douala I to a high of 26 percent in Douala III,[15] with the only noteworthy exception being Douala IV (Bonabéri, an area cut off from the rest of the city by the Wouri River and the single bridge across it), where nearly two households out of five are in the first (poorest) quartile. The diversity between districts is more pronounced, and is especially so for EAs, for which the ratio of households in the first quartile ranges from 0 percent to 76 percent. While one enumeration zone out of three has more than one third of households in the first quartile, 21 zones (of 250) have at least one household out of two in that poorest quartile: 9 of them are in Douala IV and 7 in Douala III.

3. ZONES SELECTED

As was done for Conakry, a short list of 26 enumeration zones (EAs) was drawn up on the basis of the aforementioned statistical findings, and an effort was made to adhere to analogous criteria: a "balanced" selection of ZDs in the five arrondissements while ensuring the proper balance of population groups, variety in the distance between the selected EAs and the city center, and variety in the accessibility level of the EAs. For Douala more specifically, we also

[14] The gross itemization of the incomes of Douala residents provided by Cavie would appear to understimate the aggregate consumption of households by a substantial margin. In order to ensure adequate consistency between the measurements taken from Cavie and from ECAM II, the Cavie income declarations are systematically boosted by more than a third. It bears noting, however, that for the issue at hand here, such a procedure has no impact on the classification of households, and hence on the zones, because the coefficient of expansion is constant.

[15] And 23 percent in the Douala II, and 24 percent in Douala V.

endeavored to achieve diversity of districts by selecting only one EA per district. These various conditions made it necessary to reach relatively deep into the list of ZDs ranked by their decreasing share of first quartile population, as indicated by the fact that the last is ranked as far back as 84th. Indeed, as in Conakry, population groups living in the more centrally located areas (for Douala, the first two arrondissements) are relatively less disadvantaged than those in the more outlying areas. Also, poverty is more rarely heavily concentrated in the EA of those central areas.

The first list was validated by discussions with our local partners and field visits made it possible to add four areas that were not surveyed when Cavie was conducted owing to the fresh growth at the periphery of the city.

The final sample includes 4 EAs in Douala I, 3 in Douala II, 9 in Douala III, 6 in Douala IV, and 8 in Douala V. The final list is provided in Table 1 below.

Table 1: Districts selected for the quantitative survey in Douala

Douala I	Bonalembe (273)	Douala IV	Besseke (423)
	Bonatene (261)		Bilingue (430)
	Bonejang (275)		Bojongo (440)
	Nkongmondo (289)		Bonambappe (418)
Douala II	New Bell (323)		Mabanda (438)
	Ngangue (335)		Ndobo (442)
	Nkololoum (321)	Douala V	Bepanda (451)
Douala III	Bilongue (368)		Bepanda tonnerre (462)
	Logbaba (384)		Bonangang
	Mboko (395)		Makepe II Yoyong (461)
	Mboppi (340)		Ndogbati (486)
	Ndogpassi		Ndogbong (475)
	Nyalla		PK 8 (490)
	Nylon (350)		PK 14
	Oyack (376)		
	Soboum (356)		

The parenthetical reference is to the Cavie*code for the ZD selected in the district. The number in brackets is the* Cavie *code for the enumeration areas selected in the district.*

After reconstituting, on the basis of the gross data gathered, overall annual income figures for individuals and households covered by the survey, it is possible to compare the findings with those from prior surveys, namely *Cavie* or *Household expenditure*. The commentary set forth below is confined to the gross information from the *Mobility* survey, i.e., without adjustment for the sample of 600 households.

1. CONTEXT OF THE COMPARISONS

Performing such a comparison does, however, have its limits. Quite apart from the fact that the *Mobility* survey is, by its very construction (the initial selection of survey areas), intended to overrepresent poor households, thereby rendering any sweeping comparisons meaningless, it does bear noting that the two prior surveys available to us, both covering the Douala urbanized area, yield results that sometimes are significantly at odds with one another.[16]. Thus, although the average resources per household are closely in line in the two surveys, income distribution is significantly different between them: the per capita income ceiling defining the 1st quartile in *Expenditure* covers 38 percent of households according to *Cavie* data, while the second quartile covers 20 percent and the third and fourth account for 20 percent and 22 percent, respectively.[17] These gaps are probably attributable in part to differences in the data gathering method (expenditure reported as against income reported[18]), although other factors (probably including sample size) also have an impact on the variability of the findings.

2. WEIGHT OF QUARTILES AND MONETARY HOUSEHOLD RESOURCES

The *Mobility* survey overrepresents households from the first and second quartiles from *Cavie*, and underrepresents the third and especially the fourth quartiles (Table 1). Nevertheless, the first quartile is underrepresented by reference not to *Cavie* overall, but to its weight in *Cavie* reduced to only those areas that are in common with *Mobility*. This shortcoming should be assessed in

[16] Needless to say, this is not attributable solely to discrepancies traceable to the two years between these suveys. The information set forth in the balance of this section uses deflated data.

[17] These are quartiles obtained after imputing rents to households that pay none. Without an imputed rent, the limit values between quartiles are, of course, drawn somehwat downward, but without significant reduction in the gap between the distributions from *Expenditure* and *Cavie*: the first quartile of *Expenditure* still includes 37 percent of the households from *Cavie*, and the subsequent ones 18, 20, and 25 percent, respectively. It further bears noting that *Cavie* was based on ECAM II, which included imputed rents, making the latter less relevant a priori.

[18] Note, for example, that the incomes estimated on the basis of the gross values delared in *Cavie* are affected by a corrective coefficient intended to make the macro data from that survey consistent with those from the ECAM II survey, which was conducted one year earlier. The use of this coefficient would suggest an increase by over one third in the values declared by those interviewed…

relative terms, however, by observing that the situation is considerably better when comparing with the quartiles identified in *Expenditure* (here, without imputed rent) because more than one *Mobility* household of every two is in the first quartile and one out of four in the second quartile (Table 2).

Table 1: Distribution of households by *Cavie* quartiles, for various samples

	Quartile 1	Quartile 2	Quartile 3	Quartile 4
Cavie, Douala	25	25	25	25
Cavie, Districts	47	23	17	13
Mobility, Districts	38	37	18	7
Mobility, Overall	37	38	18	7

Cavie *and* Mobility *designate the comparable surveys. Douala corresponds to the entire* Cavie *sample, Districts to the subsample of districts common to both* Cavie *and* Mobility*, and Overall to the total* Mobility *sample.*

Table 2: Distribution of households by *Expenditure* quartiles, for various samples

	Quartile 1	Quartile 2	Quartile 3	Quartile 4
Expenditure, Douala	25	25	25	25
Mobility, Overall	54	24	15	7

Expenditure *and* Mobility *designate the comparable surveys. Douala corresponds to the entire* Expenditure *sample, and Overall to the entire* Mobility *sample.*

Within each quartile, the differences in average resources between the surveys are also pronounced (Figures 1 and 2). First, there are sizable disparities between *Cavie* and *Expenditure* for all the quartiles. In *Mobility*, the evident drop-off in households in the fourth quartile is accompanied by a clear spike in the resources (total or per capita) of these households, which confirms that the interviewers properly followed instructions to avoid households that were evidently well off. Regardless of the quartile, the *Mobility* households are less well off on average than those from *Expenditure,* whether with regard to total resources or per capita resources. The comparison with *Cavie* is less clear-cut, in particular when the latter is limited solely to the 26 districts in common. Nevertheless, the households from the first quartile tend to be slightly poorer in *Cavie* than in *Mobility*, this despite a smaller household size (5.3 persons for *Mobility*, versus 5.1 for *Cavie* overall and 5.0 for *Cavie* when limited).

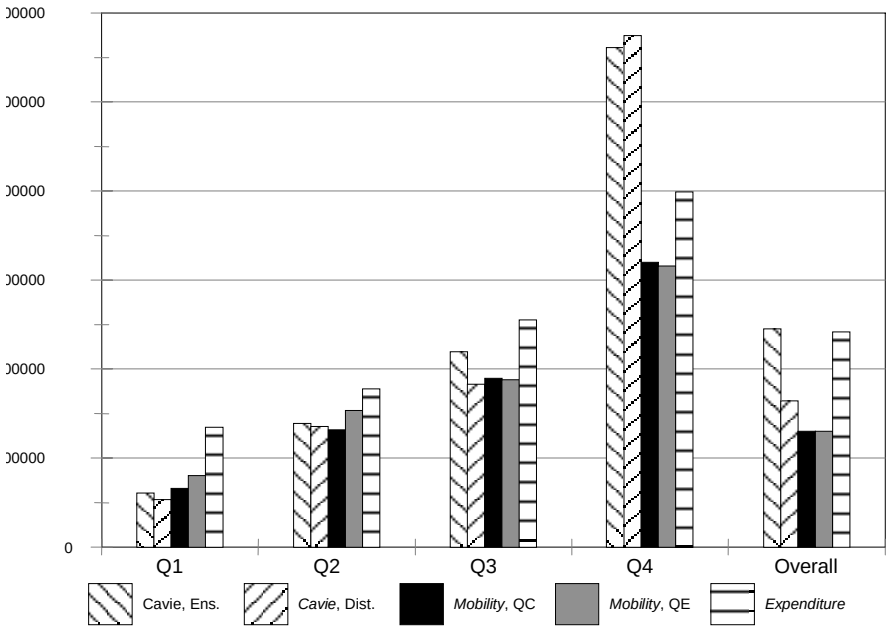


Figure 1: Average household resources, by quartile (CFA francs)

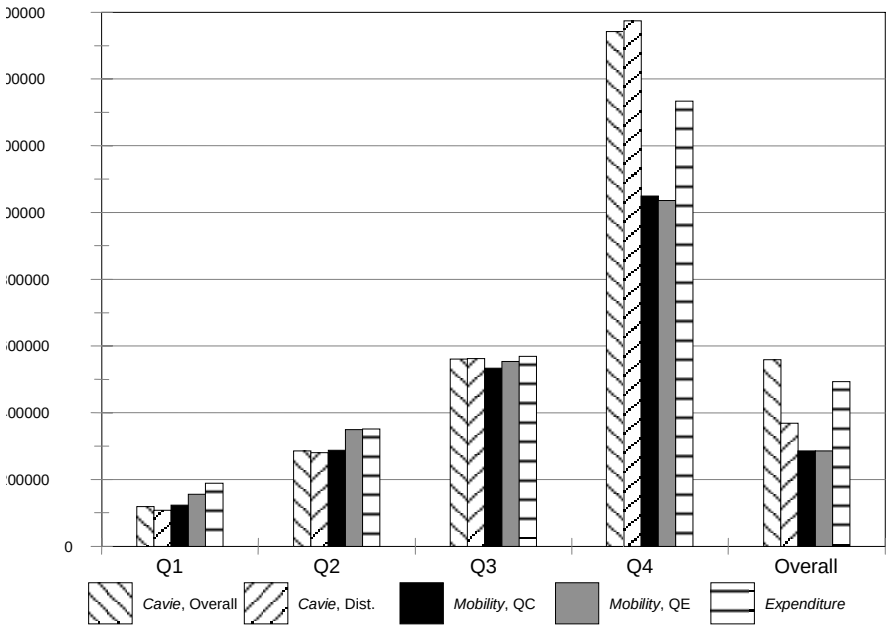


Figure 2: Average per capita resources by quartile (CFA francs)

Legend: Cavie, Mobility *and* Expenditure *designate the comparable surveys. Overall corresponds to the entire sample, Dist. to the subsample of districts common to both* Cavie *and* Mobility, QC *to the quartiles from* Cavie, *QE to those from* Expenditure.
Resources: "Corrected" income for Cavie, *Income for* Mobility, *Expenditure for* Expenditure.

The analysis can be fine-tuned by breakdown of resources depending on whether or not they are derived from work-related activity. *Cavie* identifies individual income derived from work separately from other income, while *Mobility* allows for an even finer breakdown. *Expenditure,* in contrast, identifies the grants, gifts, and pensions paid by the surveyed household to other households, which is hence not directly comparable inasmuch as the recipients may or may not be Douala residents. It bears noting, however, that 85 percent of households report such payments, a percentage which rises significantly as the amount of available resources increases (from 65 percent to 93 percent between the first and fourth quartiles). The share of expenditure attributed to such transfers shows the same tendency, but at a modest level (from 1.8 percent to 4.5 percent). The relevant shares of households are considerably higher than those observed in either *Cavie* or *Mobility*, whereas the amounts involved are much smaller.

Indeed, according to *Cavie*, 28 percent of households and 11 percent of individuals receive income from non-work sources, while the corresponding figures are 55 percent and 34 percent, respectively, according to *Mobility*. The discrepancies between the two surveys are particularly pronounced for the first quartile (Table 3): such non-work income is applicable to sacredly one household out of four according to *Cavie* and to almost three out of five according to *Mobility*. The amounts involved in the two surveys are also divergent, while in both cases the differences are proportionally smaller as the households in question become more affluent: the share of such income in total income thus declines from 21 percent in the first quartile to 5 percent in the fourth according to *Mobility* and from 18 percent to 9 percent, respectively, according to *Cavie*. These differences may be explained by better recording of grants and gifts in *Mobility*, where the heading in question is directly listed, whereas in *Cavie* it is not. Listing probably made it easier for those surveyed to remember them.[19]

Tableau 3: Share of households benefiting from non-work-related income, by quartile

	Q1	Q2	Q3	Q4
Cavie	24.4	31.3	29.6	27.2
Mobility	57.0	60.3	50.0	30.0

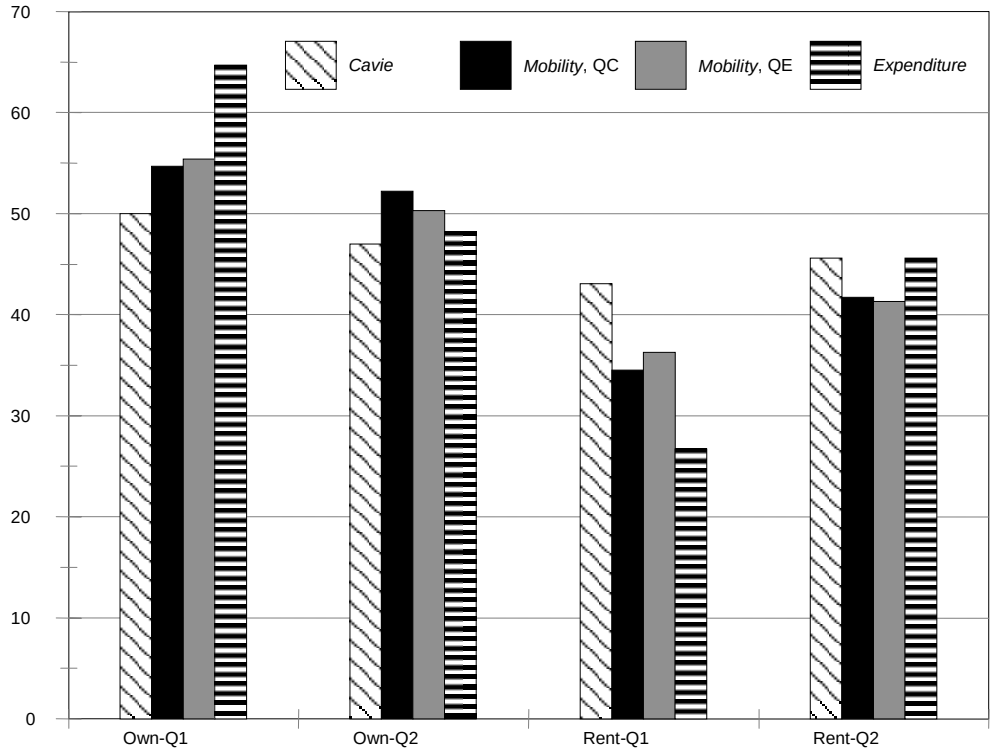
To sum up, analysis of the income data gathered by the various surveys shows that the *Mobility* households are situated at a midpoint between those from *Cavie* and from *Expenditure*, especially in the first quartile. Work-related income as well as income other than from work appear systematically to be higher in *Mobility* than in *Cavie*. Are these gaps corroborated by gaps in respect of household equipment as measured by ownership of various goods?

[19] In *Mobility*, grants and gifts represent more than half the non-work income, and are the first response item. The average amount of grants and gifts rises by two-thirds from the first quartile to the second, and then increases only slightly. In percentage terms, their weight declines from 11.3 percent to 4.1 percent.

3. QUARTILES AND HOUSEHOLD EQUIPMENT

The comparison may be extended by observing, for the various quartiles, the occupancy status of the housing unit and several indicators of equipment. We will focus our attention here on the first two quartiles. Complete tables are provided in the technical report.

While the *Expenditure* survey showed a slight predominance of home-owning households over renters (47 percent and 44 percent of the population, respectively), *Cavie* shows a reversed pattern (42 percent owners and 50 percent renters). However, both surveys indicate a drop in ownership rates as the affluence of households increases. The *Mobility* survey shows the same trend, with the ownership rate declining from 55 percent to 40 percent between the quartiles at the extremes. For the first quartile, *Mobility* is once again at a midpoint vis-à-vis the two reference surveys, with an ownership rate slightly higher than the one recorded by *Cavie* and significantly lower than that found in *Expenditure* (Figure 3). The three surveys are aligned more closely in the second quartile, with the home-ownership rate still slightly higher for *Mobility*.



Cavie, Mobility *and* Expenditure *designate the surveys being compared, QC the quartiles from* Cavie, *QE those from* Expenditure. *Own designates owners, Rent designates renters, and Q1 and Q2 designate the first and second quartiles, respectively.*

Figure 3: Proportion of owners and renters by quartile and by survey

Cavie and *Expenditure* also diverge significantly in respect of the weights of the two dominant types of housing units, the multi-household housing unit

(44 percent of households in *Cavie* but 37 percent in *Expenditure*) and the single-family house (36 percent and 48 percent, respectively). *Mobility* falls between the two and shows primarily an overrepresentation of compounds, in particular in the first quartile (Figure 4).

The two reference surveys are very close to one another as regards the walls of the housing unit, both overall and by quintile (Figure 5). Nearly 70 percent of households have walls of hard materials (concrete, perpender, fired brick, or stone block) while virtually all others use wood (boards or carabot planks). In the *Mobility* survey, walls of hard materials are less frequent for households in the first quartile, while households in the second quartile have housing conditions that much more closely resemble those of their counterparts in the two reference surveys (and even slightly better than those in *Expenditure*). Connection to the water supply and electricity grid appears to be slightly higher in *Cavie* than in *Expenditure,* with *Mobility* showing households that are less well provided, especially for the first quartile. Here again, the households in the second quartile are somewhat better off in *Mobility* than in *Expenditure.*

Access to various consumer durables is rather similar in *Cavie* and *Mobility.*[20] For the first quartile, ownership rates in *Mobility* are slightly higher for radios, the same for television sets, and slightly lower for refrigerators and mobile telephones (Figure 6). In contrast, regardless of the consumer durable, the second quarter households are systematically better off in *Mobility.* The gaps between the two surveys are nevertheless rather minor for both quartiles.

On the other hand, the gaps are more significant when it comes to the ownership of individual means of transport (Figure 7). While direct comparison for automobiles and motorcycles is of course somewhat risky, as we took care to distinguish in the *Mobility* questionnaire between passenger transport vehicles and strictly private vehicles, which tends to minimize the apparent weight of the latter. But when these different types of vehicles are aggregated into a single category, motorized vehicles (see the last bars in Figure 7), the finding is scarcely altered: the households covered by *Cavie*, at least for the first quartile, are significantly more motorized than those in *Mobility*. Beyond this divergent finding, it bears noting that the availability of individual modes of transport on the part of Douala's poor households is extremely limited.

[20] We do not have the equivalent information for *Expenditure,* except as regards mobile telephones. However, for phones the comparison is altogether unrealistic anyway: *Expenditure* was conducted before these products underwent rapid growth, and only 6 percent of households had them (as compared to 52 percent in *Cavie*, just two years later!).

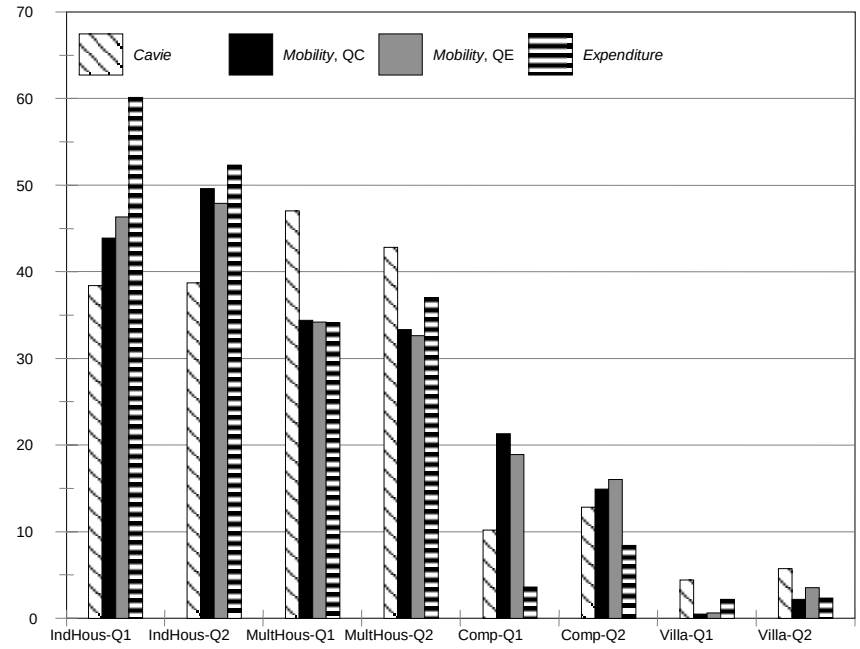


Figure 4: Type de housing, by quartile and survey

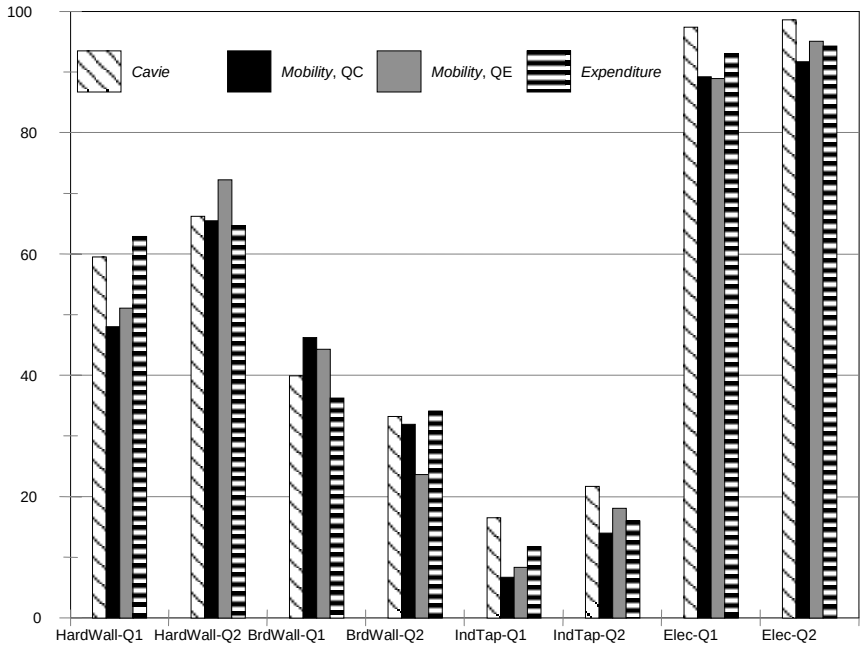


Figure 5: Walls of housing unit and connection to water and electricity, by quartile and by survey

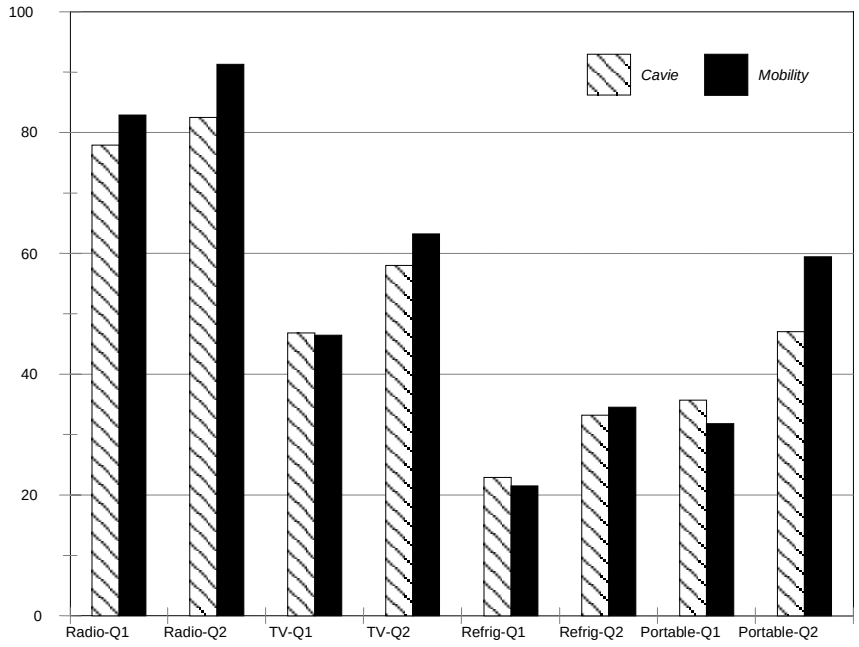


Figure 6: Rate of ownership of various durables, by quartile and by survey

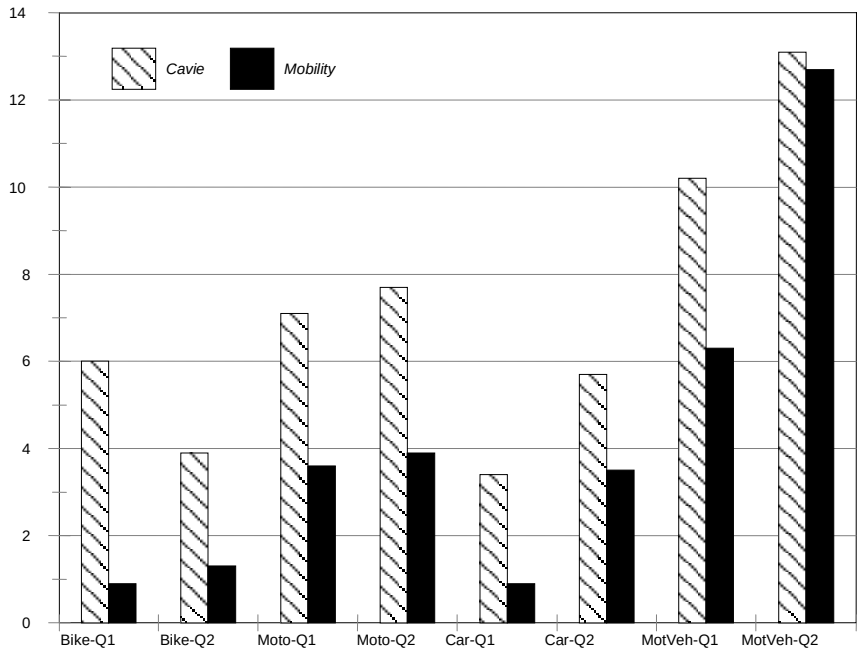


Figure 7: Rate of vehicle ownership, by quartile and survey

Cavie, Mobility *and* Expenditure *designate the surveys being compared, QC the quartiles from* Cavie*, QE those from* Expenditure. *Q1 and Q2 designate the first and second quartiles, respectively.*
IndHou corresponds to independent housing units, MulHou to multi-family housing units, Conces to Concessions, Villa to Villas. HardWall indicates walls of hard materials, BrdWall to board or plank walls, IndTap to the availability of an indoor tap, Elect to electricity, Radio to a radio, TV to a television set, Refrig to a refrigerator, Portable to a portable phone, Bike to a bicycle, Moto to a two-wheel motorized vehicle, Car to an automobile, and MotVeh to a motor vehicle.

Before returning to more strictly monetary observations, there are a number of findings that should be drawn from this comparison of housing conditions and equipment of the households covered by the three available surveys. The first one is an observation made earlier: the available data indicate that the two reference surveys do not systematically convey the same vision of Douala, and the differences are sometimes significant. Thus positioning the *Mobility* survey in relation to the existing information is not always very easy… Nevertheless, overall, the data from *Mobility* appear to be relatively consistent with the earlier sources. As regards the first quartile specifically, *Mobility* identifies a few more homeowners than *Cavie* and somewhat fewer than *Expenditure,* while walls are of slightly lower quality and access to water and electricity less widespread than in the two reference surveys. Conversely, in relation to the *Cavie* data, rates of ownership of consumer durables appear to be comparable except in the case of vehicles, for which they are lower (but extremely low in any event). It would thus appear that the households in *Mobility,* at least those in the first quartile, are a bit more "poor" than their counterparts in *Cavie*, at least if one confines oneself to such information on the ownership of durable goods.

4. CONCLUSION

The *Mobility* sample thus has fewer households from the first quartile (*Cavie* quartiles) than might have been suspected on the basis of the initial selection of the survey areas, while the weakness of the fourth quartile was to be expected. However, this relative "lack" of poor households is partially offset by a greater number of households from the second quartile (*Cavie* quartiles). This observation should also be tempered by the fact that a high proportion of households in the *Mobility* survey are from the first quartile of *Expenditure*.

Taking into account indicators on how households are equipped, indicators that are nonmonetary but more permanent and perhaps less affected by uncertainties than income data, tends to show that the households in the first quartile of *Mobility* are slightly worse off than those in the other surveys. All in all, while there are fewer households that are poor in the monetary sense in the *Mobility* survey than in the *Cavie* survey, they nonetheless appear to be a bit poorer.

These disparities relate first to the methods for gathering data on household resources, which were distinct (expenditures vs. incomes) or were detailed to a different extent (non inclusion of income other than from work). But they are also explained by the fact that the districts of African cities are, for the most part, socioeconomically heterogeneous. There are two immediate consequences of this social heterogeneity of the districts, one relating to the calibration base, and the other to the selection in the field of the sample for the survey. All of the surveys select, for each zone covered, a "small" number of households, frequently from 12 to 30. Ranking a zone as "poor" (in the sense that households from the first quartile are overrepresented in the calibration base) is then tainted by a significant risk of error. Conversely, while it is relatively easy to ask the interviewers to steer clear of households that appear to be more affluent (as confirmed after the fact by the weakness of the fourth quartile in our sample, in

terms of both number and average income), it proves to be much more difficult to identify households that are genuinely "poor" (in strictly monetary terms) without access to an ad hoc pre-survey or to a recent and sound sampling basis (population census).

Breakdown of poor and non-poor city dwellers, by group (%)

	Poor	Non-poor	Total
Students	34	2	26
Working women	18	28	21
Non-working women	21	4	16
Working men	18	62	30
Non-working men	9	4	8
All	*100*	*100*	*100*
%	*73*	*27*	*100*

Household position of city dwellers, by group (%)

	Head of household	Spouse	Child	Other relative	Other	*Total*
Students	1	0	74	24	0	*100*
Working women	22	47	17	14	0	*100*
Non-working women	4	66	14	16	0	*100*
Working men	68	0	18	12	2	*100*
Non-working men	41	2	35	21	1	*100*
Poor, overall	*21*	*23*	*38*	*18*	*0*	*100*
Non-poor, overall	*61*	*16*	*11*	*11*	*1*	*100*
Total surveyed	*32*	*21*	*30*	*16*	*1*	*100*

Marital status of city dwellers, by group (%)

	Single	Married	Divorced, widow(er)	*Total*
Students	99	1	0	*100*
Working women	33	50	17	*100*
Non-working women	24	69	*7*	*100*
Working men	36	61	3	*100*
Non-working men	55	36	8	*100*
Poor, overall	*56*	*38*	*6*	*100*
Non-poor, overall	*33*	*58*	*9*	*100*
Total surveyed	*50*	*43*	*7*	*100*

Educational level of city dwellers, by group (%)

	None	Primary	1st cycle sec.	2nd cycle sec.	Higher	*Total*
Students	0	16	44	30	10	*100*
Working women	14	39	37	9	1	*100*
Non-working women	11	31	42	15	1	*100*
Working men	3	28	39	26	5	*100*
Non-working men	9	31	35	20	5	*100*
Poor, overall	*6*	*27*	*41*	*22*	*5*	*100*
Non-poor, overall	*4*	*21*	*34*	*27*	*15*	*100*
Total surveyed	*6*	*25*	*39*	*23*	*8*	*100*

Structure by age group and average age of city dwellers, by group (%)

	Child (10-13)	Youth (14-18)	Young adult (19-34)	Older adult (35-54)	Elderly (>54)	*All ages*	Average age (years)
Students	28	45	27	0	0	*100*	16
Working women	0	7	47	38	8	*100*	34
Non-working women	0	9	58	24	9	*100*	32
Working men	0	3	56	34	7	*100*	34
Non-working men	1	10	45	21	24	*100*	38
Poor, overall	*10*	*20*	*44*	*20*	*7*	*100*	*28*
Non-poor, overall	*7*	*15*	*45*	*26*	*7*	*100*	*37*
Total surveyed	*0*	*1*	*47*	*42*	*9*	*100*	*30*

Professional activity and annual income of city dwellers, by group (%)

Group	Type of work	% of group	Annual income (CFAF)	Weighted annual income (CFAF)*
Students	Not employed	94	30,000	8,000
	Working	6	99,000	35,000
	Students, total	100	34,000	10,000
Working women	Permanent, salaried	20	328,000	130,000
	Permanent, wage earner	69	280,000	99,000
	Non-permanent, wage earner	11	109,000	49,000
	Employed females, total	100	270,000	99,000
Non-working women	Not employed	100	61,000	14,000
Working men	Permanent, salaried	30	619,000	168,000
	Permanent, wage earner	53	431,000	135,000
	Non-permanent, wage earner	17	258,000	106,000
	Employed males, total	100	458,000	140,000
Non-working men	Not employed	100	156,000	36,000
Poor, overall			*168,000*	*54,000*
Non-poor, overall			*1,073,000*	*506,000*
Total surveyed			*415,000*	*180,000*

** The weighted annual income is defined as the annual income declared in the survey multiplied by the ratio "total number of persons in household/number of employed persons in household" in order to take account of the composition of the respondent's household and the number of "dependent persons" per employed person.*

Location of work place for individuals declaring professional activity (% of group*)

	Home	Home district	Adjacent district	Elsewhere	*Total*
Students	8	27	19	46	*100*
Working women	24	27	14	34	*100*
Working men	*7*	11	12	71	*100*
Poor, overall	*15*	*20*	*13*	*52*	*100*
Non-poor, overall	*9*	*13*	*11*	*68*	*100*
Total surveyed	*12*	*17*	*12*	*59*	*100*

** For students, the percentage is calculated on the basis of individuals with a professional activity; for the two other groups, the basis is the total size of each group.*

ANNEX 7: HOW REPRESENTATIVE ARE THE QUANTITATIVE SURVEY DATA?

The sample for the quantitative household survey was not intended to be representative of Douala households as a whole. Quite the contrary, it was a contractual requirement to overrepresent the poorest households (namely those belonging to the first per capita income distribution quartile) in order to gain a better sense of the differences in the requirements and behavior of the population groups that are less well off. To achieve this aim, specific zones in the urbanized area in which such groups were proportionally more numerous were identified and selected for the field work (see Annex 4). Moreover, the interviewers were explicitly instructed to steer clear of households that appeared to be more affluent, because of the type and quality of the structure, the presence of private vehicles, etc.

The available data can thus not be construed to be representative *per se* of the situation of Douala residents in general. It is possible, however, to test the effect of various corrective options on the results set forth in this report. We therefore corrected our sample, on the basis of the data from the *Cavie* survey, in accordance with three sets of criteria: structure by quartile, structure by arrondissement and by quartile, and structure by quartile and by gender of the head of household. The corresponding results for several accessibility and day-to-day mobility indicators are presented in Tables 1 and 2 below.

- The estimates on the practices of the poor (whether households or individuals) show very little variation regardless of the calculation method used: only correction for quartile and arrondissement differs somewhat, showing slightly more favorable accessibility and travel indicators that fluctuate somewhat more.

- As regards the non-poor, in respect of whom the sample is smaller, the estimates are a bit less stable, with the correction for quartile and arrondissement showing the greatest degree of deviation once again. The gaps continue to be minimal, but it should nonetheless be noted that the raw data tend to understate mobility in individual means of transport, particularly in private automobiles.

- For the population as a whole, correcting the basic data never has an impact on orders of magnitude: the changes only rarely exceed 0.1 trip per day, for example. Any of the corrections does, however, reduce the importance of walking in trips to the market and increases the weight of automobiles and, to a lesser extent, taxis.

In conclusion, the estimates would appear to be quite solid when they pertain to the poor population groups only, as they were the targets for the survey, and somewhat less robust for the population as a whole and, especially, for the non-poor. In particular, the raw data underestimate the usage of automobiles, given

that the most obviously affluent households, especially as regards ownership of private vehicles, were excluded from the sample.

Table 1: Comparison of effects of three correction methods on several accessibility indicators

	Unadjusted	Quartile	Quart*Arrond.	Quart.*Gender
Time required to reach road on foot (minutes)				
Poor	3.8	3.8	3.8	3.8
Non-poor	3.2	3.1	2.6	3.2
Combined	3.5	3.4	3.0	3.4
Time required to access public transport on foot (minutes)				
Poor	9.3	9.2	8.5	9.2
Non-poor	8.4	7.9	6.5	8.0
Combined	8.8	8.4	7.2	8.4
Households requiring more than 15 min to access public transport on foot (%)				
Poor	22.2	22.2	18.4	22.4
Non-poor	18.6	16.5	11.4	17.7
Combined	20.6	18.6	14.0	19.4
Time required to access public primary school (minutes)				
Poor	19.6	19.6	19.3	19.5
Non-poor	14.4	14.0	14.3	14.1
Combined	18.1	17.3	17.3	17.3
Time required to access private primary school (minutes)				
Poor	15.3	15.3	14.9	15.5
Non-poor	14.7	14.2	14.7	14.2
Combined	15.1	14.8	14.8	14.9
Time required to reach market (minutes)				
Poor	17.6	17.6	17.3	17.6
Non-poor	14.5	14.0	13.7	13.8
Combined	16.2	15.3	15.0	15.2
Households going to market on foot (%)				
Poor	83.2	83.2	83.0	83.2
Non-poor	68.4	63.0	62.9	63.0
Combined	76.4	70.3	70.2	70.3
Households going to market on foot and requiring over 30 min (%)				
Poor	22.2	22.1	20.6	22.2
Non-poor	10.0	8.0	8.5	7.8
Combined	16.6	13.1	12.9	13.0
Time required to travel from home to work (employed persons with fixed place of work outside the home)				
Poor	25.3	24.9	24.9	25.0
Non-poor	27.4	26.4	25.3	26.5
Combined	26.3	25.9	25.1	26.0

*Unadjusted refers to the basic data, Quartile to the correction of the structure by quartile, Quart*Arrond to the correction of the structure by quartile and by arrondissement, and Quart*Gender to the correction of the structure by quartile and by gender of the head of household.*

Table 2: Comparison of effects of three correction methods on several mobility indicators

		Unadjusted	Quartile	Quart*Arrond.	Quart.*Gender
Number of trips per day					
	Poor	4.37	4.38	4.45	4.39
	Non-poor	4.81	4.83	4.97	4.77
	Combined	4.49	4.55	4.64	4.53
Time budget for transportation (minutes)					
	Poor	84	83	79	83
	Non-poor	105	107	100	105
	Combined	89	92	87	91
Number of work-related trips					
	Poor	1.62	1.59	1.54	1.59
	Non-poor	2.29	2.39	2.36	2.33
	Combined	1.80	1.89	1.84	1.87
Number of household-related trips					
	Poor	1.69	1.72	1.80	1.72
	Non-poor	1.39	1.30	1.36	1.31
	Combined	1.61	1.57	1.64	1.57
Number of socially motivated trips					
	Poor	1.05	1.06	1.10	1.06
	Non-poor	1.14	1.13	1.25	1.13
	Combined	1.07	1.09	1.15	1.09
Number of trips on foot					
	Poor	3.35	3.27	3.32	3.28
	Non-poor	2.49	2.25	2.41	2.22
	Combined	3.12	2.88	2.99	2.89
Number of trips by two-wheeled vehicle					
	Poor	0.06	0.07	0.04	0.06
	Non-poor	0.12	0.15	0.11	0.15
	Combined	0.08	0.10	0.07	0.10
Number of trips by automobile					
	Poor	0.04	0.05	0.04	0.05
	Non-poor	0.28	0.45	0.48	0.44
	Combined	0.10	0.20	0.20	0.19
Number of trips by taxi					
	Poor	0.46	0.52	0.56	0.52
	Non-poor	1.00	1.06	1.10	1.04
	Combined	0.60	0.72	0.76	0.71
Number of trips by *bendskin*					
	Poor	0.31	0.31	0.32	0.31
	Non-poor	0.59	0.63	0.63	0.63
	Combined	0.38	0.43	0.43	0.43
Number of trips by taxi + *bendskin*					
	Poor	0.07	0.09	0.09	0.09
	Non-poor	0.15	0.16	0.14	0.15
	Combined	0.09	0.12	0.11	0.11
Number of trips in other public transport					
	Poor	0.08	0.07	0.07	0.07
	Non-poor	0.16	0.12	0.08	0.12
	Combined	0.10	0.09	0.07	0.09

*Unadjusted refers to the basic data, Quartile to the correction of the structure by quartile, Quart*Arrond to the correction of the structure by quartile and by arrondissement, and Quart*Gender to the correction of the structure by quartile and by gender of the head of household.*

A meeting focused on feedback and exchanges of views was held in Douala on May 7, 2004. It gathered together representatives of the institutions in the sector, professionals, members of civil society, and representatives of donors and lenders. The morning was devoted to a presentation by the SITRASS consultants on the findings of the study and the lines of action, followed by initial discussion with the participants. In the afternoon, three groups were set up on a voluntary basis to focus on the three following issues: public transport supply; transport infrastructure; and accessibility to urban services. Finally, the major lessons from each of these three workshops were presented at a plenary session.

As the discussions in the three workshops overlap to some degree, we provide below a summary that is restructured around the four action areas identified in the report (see Chapter 6).

1. ACTIONS TO IMPROVE ROADS:

NEED TO DEVELOP A COMPREHENSIVE STRATEGY WITH A LONG-TERM FOCUS

In Douala, the infrastructure requirements pertain to access to poor districts, but also to the major road arteries. The participants reached a consensus on the desire to take a global approach to the issue. Depending on who was speaking, there were recommendations to begin by upgrading the structural backbone first, or to begin by providing access to isolated districts. In fact, this difference in the approaches espoused reflects the fact that Douala is a two-speed city: a city of unplanned settlements, and a city that is turned toward the rest of the country and the rest of the world. It is hence understandable that it is difficult to reach agreement on the need to prefer one action as distinguished from another.

It was noted, however, that there are sizable investments in progress for refurbishing the primary road network, which to some gives the impression that the Urban Community of Douala is only interested in the "rich districts." As acknowledged by individuals involved in the rehabilitation of the road infrastructure, the resources in play are significant, amounting too far more than the Urban Community can afford, for which reason there is a call for national financial contributions. Decentralization ought not suggest the total disengagement of central government agencies, and it is regrettable that this kind of discussion on the resources for and responsibilities pertaining to improving local access did not take place.

The option of a comprehensive action strategy pertaining both to the major arteries and to local access roads constitutes a "development" or "economic growth" strategy. It reflects an urgent situation, but should be regarded from a long-term perspective. In this spirit, various participants requested that river and rail transport modes be incorporated into infrastructure-related actions.

The discussions emphasized the interrelationship between road type and means of transport. It was unanimously observed that the important role currently played by motorcycle taxis was the consequence of the deteriorating road system (as four-wheeled taxis cannot use these roads). Some went so far as to observe that merely improving the minor roads would suffice to eliminate this trade. It was acknowledged that technical standards for road system design are important as a means of determining which modes of urban transport are suitable for a given type of access. A comprehensive strategy for road system activities would thus have an impact on the transport supply strategy. Road system design is also a way to reduce maintenance costs on the major arteries (for example, the cobbled roads), so that the city can do a better job of addressing the financial demands of the overall road infrastructure.

2. ACTIONS TO IMPROVE CONDITIONS FOR WALKING, A LOW-COST MOBILITY: *MUCH THINKING ABOUT WALKING ALONGSIDE ROAD ARTERIES, LITTLE ON PEDESTRIAN PATHWAYS*

Walking, the leading mode of transport in Douala, is extremely difficult both in local neighborhoods and along the major axes of the main road system. While there was a wealth of discussion on the conditions for walking alongside the major arteries, it is regrettable that comments on pedestrian pathways in local areas were confined simply to the observation that little is being done to facilitate it.

It was, first of all, noted that no consideration of the conditions for walking was included in the rehabilitation works on the major arteries. Participants indicated that it was needed to improve sidewalks as well as to give thought to improving road shoulders.

This said, most of the exchanges relating to improving walking conditions related to the obstruction of sidewalks. There was a strong call for enforcement of the regulations forbidding the parking of vehicles and conduct of small retail trade operations on the sidewalks, and some were outspoken about calling for "crushing" miscreants in this regard. Other participants, however, noted that enforcing the regulations requires police officers, and thus incurs costs. Very broad agreement was reached as the need to educate and sensitize the public to the need to respect the space set aside for walking. In addition, there is a need to build parking lots to ensure that automobile drivers do not park on sidewalks, and also to set aside space for small merchants to operate from. All of these recommendations involve carrots and sticks, of course, and a differential approach should be taken depending upon location in the city center or in the districts: small traders are vital for the residents of the districts, and would be banned only in the city center.

3. ACTIONS TO IMPROVE TRANSPORT SUPPLY:

THESE ACTIONS SHOULD BE CONSIDERED AS PART OF A GLOBAL STRATEG, AND ALONGSIDE ACTIONS TO IMPROVE ROADS

It is good that consensus was reached on the need to address the supply of urban transport as part of an overall strategy. The discussions even moved beyond this simple agreement, with the participants striving to sketch out just what such a strategy might be. The provision of urban transport services should be ranked and structured around a mass transit system, such as SOCATUR buses. These would be called upon to serve the major routes, alongside taxis working major areas, *bendskins* for travel throughout the isolated districts, and light trucks and minibuses to serve the outlying districts. However, such an approach must be based on a thorough assessment of the current system which, while envisaged, has yet to be carried out.

Here again, it was observed that links are drawn between the type of road system and the mode of transport. Prioritizing the kinds of transport to be supplied would be closely associated with ranking the structure of the road system itself. Indeed, the road system is regarded as an important lever for improving urban transport service: improving the system would shift the supply level upward and would tend to shift the *bendskins* to outlying areas and, more generally, to areas with inadequate infrastructure.

The introduction of a comprehensive strategy of actions on public transport supply should be accompanied by controlling the fare structure so that the poorest are not priced out of this mode. The simple fact of improving the road system could trigger a reduction in vehicle maintenance costs. With respect to the targeted fare-related measures, the socioeconomic context of Douala significantly restricts the room for maneuver. Participants were reminded, however, of the advantages of flat-rate fare structures as introduced by SOCATUR, which works to the benefit of those traveling long distances and the residents of the outlying areas of the city. As a counterpart, the SOCATUR operator reminded those present of its desire to receive compensation in the form of tax and customs duty benefits.

The possible establishment of an Organizing Authority was warmly received. This step was perceived as a solution for the laxity of institutional coordination, one which would enhance the transparency of financing for the sector. Emphasis was also placed on the merits of a legal and regulatory approach for resolving the current supply shortcomings of urban transport. In respect of the *bendskins*, various participants, primarily the institutional ones, reminded those present that that enforcement of the existing regulations is necessary before instituting any new ones.

The urban transport sector is a major source of jobs in the city. Unfortunately, this issue was addressed only marginally during the discussions. The focus seemed to be on denouncing the danger of *bendskin* activity to both passengers

and drivers. It was also noted that the contribution made by *bendskins* should be assessed in relation to the social costs to which they give rise.

4. ACTIONS TO MAKE BASIC SERVICES AVAILABLE LOCALLY: *AN URBAN PLANNING ISSUE*

Actions relating to the location of basic services (markets, water points, schools, healthcare services) and the accessibility thereof involve cooperation between the various players responsible for these services and those responsible for urban transport. There is thus a second level of cooperative work to be structured, after the one involving only those in the transport sector. Indeed, it emerged that this aspect touches upon the issue of urban planning. However, in the absence of representatives from the various ministries and enterprises concerned, dialogue on this issue did not progress very far and the exchanges focused primarily on the problems affecting government units responsible for monitoring the urbanization of Douala, a problem that is hardly novel in a developing country.

5. LIST OF PARTICIPANTS

NAME (LAST, FIRST)	ORGANIZATION	FUNCTION
ACHUO CLETUS ACHUO	ETS DZE Daniel ACHUO	Manager
ANGOA Hyacinthe	Assoc. Parents d'Élèves du Lycée d'Oyack	Vice President
ATEBA NANGA	SYNPROCETAC	National President
AUDIBERT Christian	Agence Française de Développement	Engineer
BITJONG N. Clémentine	GIDEFEC Yaoundé	Teacher
BOLLA Joseph	Urban Community of Douala	Head of Research, DFFI
BOUPDA Esther	SITRASS	Consultant
DAYANG Romain	Ministry of Public Investment and Territorial Development	Douala Research Coordinator
DEFFO Paul	Assoc. Parents d'Élèves du Lycée d'Oyack	Chairman
DIAME Apolos	SYNJETUICAM	Chairman
DIGNOU Thomas	SYNETCAM	Chairman
DIKONGUE Augustin	City Ministry	Urban Delegate
DIKOUME EBELE Eitel	Lycée d'Oyack	Headmaster
DIKOUME MOUDOUROU	BONATENE district	District leader
DJEUGA Duclair	AES-SONEL (SDPNT)	Chief, Research Division
EKWALA	Ministry of Transport	SSATP Coordination
EPEE Charles		Engineer
ETITIKE MBANBA Samuel	SOCATUR	Operations manager
ETTEINGER Bernard	French cooperation authorities	Technical advisor, CUD
EVINA ONGOLO	Provincial Delegation, National Coastal Security	Dep./DPSN
FOKOUN Lucas	Ministry of Urban Planning and Housing	Unit Chief
HOUACK Jean Pierre	NYALLA HOPITAL district	District leader
KAGOU Yves Bertin	Cabinet Cible	Associate Director
KAMGOUE Emmanuel	S.N. CHAUTAC	Chairman
KAMTE François	Urban Commune of Douala 1	Deputy Mayor

KATCHANDJI Roger	SYNACTUICAM	Provincial Chairman
KEMAYOU Louis Roger	SITRASS	Consultant
LISSOM Vincent	Ministry of Transport	SSATP Coordination
MALONGO Calvin	Urban Commune of Douala 3	Deputy Mayor
MANDENG Gaëtan	Urban Commune of Douala	Chief, PID Unit
MANDENG Marie	GIDEFEC, Yaoundé	Teacher
MBOG Jacques Didier	SCETAUROUTE	Mission Chief
MBONG MBINE Michaël	Wouri prefecture	First Deputy Prefect
MBONGUE EKWALLA Alexandre	Urban Commune of Douala 4	Chief, Technical Unit
MEYO SOUA Jacqueline	Ministry of Public Works	Economist
MOULOBY Lydienne	SOCATUR	DRHAG
MPOUAL Née NGO BELL	Ministry of Public Investment and Territorial Development/DAT	Senior staff
NANA NUNOU Annie	Urban Community of Douala	Chief, Major Works Dept.
NDZANA Arnaud	Urban Community of Yaoundé	Director, Technical Services
NGALLE BIBEHE Jean	SOCATUR	CEO
NGASSA HAPPI Léopold	FESETRACAM	National Chairman
NGOME Abel	BILINGUE, BONABERI district	District leader
NGUEGHO Dieudonné	SYNATAW	Vice President
NGUESSIE	Urban Commune of Douala 5	Engineer
NJIKAM Idrissou	SYNTHTACAM	Provincial Chairman
NJOYA MOUNCILI Noël Clément	Urban Community of Douala	Divison Chief
NKABKOB THIO'MI	National Statistics Institute	Senior staff
NKE Clémentine	Urban Commune of Douala 2	3rd Deputy Major
NOUGANG Georges Olivier	Ministry of the City	
NOVE-JOSSERAND Hubert	World Bank/SSATP	Coordinator, Poverty and Urban Mobility Study
NYETAM N. Hans	Urban Community of Douala	Director, Urban Planning and Construction
OLOUME Roger	Ministry of the City	SDTU
ONGOLO Valérie	Yaoundé University II	Educator
PERCHET Christian	SCETAUROUTE SCET CAMEROUN	Chief, Douala Agency
PLAT Didier	SITRASS	Consultant
POUDJOUM Thomas	USLC	Chairman
PRISO Olivier	Urban Community of Douala	Deputy Director, Urban Planning
SAHABANA Maïdadi	SITRASS	Consultant
SARTENA Gianni	Agence Française de Développement	Chief, C2DUH Project
SOKING Dominique	SYMPROTUICAM	Provincial
SONGA André	Urban Community of Douala	CSEPM
TAGNY Emmanuel	Urban Community of Douala	Chief, Transport Office
TAKOUGANG Sipliant	Ministère de l'urbanisme et de l'habitat	Chief, Planning Unit
TAMCHE Joseph	National Statistics Institue/Coast	Provincial Manager
TCHAMGOUE Louis Marie	SYPROTUICAM	Chairman
TCHANGANG Dagobert	SYNTABACAM	Provincial Chairman
TCHOUMTA NJEUMEN	SYNJETUICAM	Provincial Chairman
TCHUENTE Margaret	Ministry of Transport	Provincial Delegage/coast

TSABFACK Julienne	Urban Community of Douala	Transport expert
YANGO Jean	Urban Community of Douala	Director, Major Works
YETCHANG Edouard	SYNATAW	Chairman

THE DOUALA ROAD SYSTEM: LIMITED COVERAGE, PRONOUNCED DETERIORATION, AND CONGESTION ON MAJOR ARTERIES

Photo : Maidadi Sahabana, 2004

Photo 1 **Administrative center (Bonanjo): roads in good condition**

Photo : Maidadi Sahabana, 2004

Photo 2 **One of the main arteries, pitching and heaving in the business center of the city (Akwa): How to get seasick on solid ground**

Photo : Maidadi Sahabana, 2003

Photo 3 **The deterioration of some main city roads makes them suitable only for motorbike taxis**

Photo : Maidadi Sahabana, 2003

Photo 4 **The Japoma road, the second most important artery to the outlying areas to the east, is a succession of elephant-sized holes and dips**