

# Africa Transport

## Technical Note

Urban Mobility



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## Urban Transport Microenterprises in Abidjan

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This note analyses the organization, profitability, and financing of private mass transit services in Abidjan, with an emphasis on private companies operating minibuses commonly known as «gbakas». The Abidjan case study is part of a regional study launched early in 1999 under the Urban Mobility Component of the SSATP covering four cities: Abidjan, Bamako, Harare and Nairobi. The regional study was carried out by SITRASS network (Solidarité Internationale sur les Transports et la Recherche en Afrique Subsaharienne).

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Sub-Saharan Africa is confronted today with two major transport sector challenges: on the one hand, goods must be shipped more cheaply than is currently the case, and on the other hand, a steadily growing urban population requires appropriate means of transport. Regarding the latter issue, which is the subject of this study, there can be no question that the subregion is facing an urban transport crisis. The urban transport situation in African cities has changed markedly since the late 1980s; its key has been the gradual disappearance of large public transport companies in the wake of restructuring and even liquidation. As a result, in many African capitals informal private enterprises have gradually moved in to fill the vacuum left by structured companies.

Most public mass transit companies – which for too long were accustomed to receiving state subsidies to cover deficits attributable in part to poor management – are close to bankruptcy for want of funds. Consequently, their fragility notwithstanding, private enterprises obliged to cover their costs are providing services which public companies cannot supply, particularly along routes spawned by urban sprawl.

It is important to note, however, that this “conquest” on the part of small informal enterprises is based on a method of operation the legality of which is often open to question. Most public urban transport services are thus the product of a system that tolerates activity outside the rule of law and gives short shrift to sustainable mobility. The challenge, then, is to ascertain what support can be provided in order to make public transport efficient and sustainable.

### **An urban context and transport system with an increasingly “peripheral” population and jobs located mainly in the city center**

Abidjan’s central districts are saturated, with the result that urbanization is increasingly occurring in areas far from the city center – where the population is stagnant – a situation that has significantly accentuated the employment/housing imbalance. As Figure 1 indicates, the population of Abidjan is increasingly concentrated in the North (peripheral districts), while the sparsely populated districts in the South (especially the Plateau) provide most of the jobs (60 percent of all jobs but with only 34 percent of the agglomeration’s total population).

These factors, along with the geographical constraints imposed by the city’s location, affect the principal North-South trip patterns, from the peripheral districts in the North towards the central districts in the South. Although inter-district travel patterns within the North’s districts have developed in recent years, the heaviest demand for transport in Abidjan is for North-South travel.

The Abidjan Transport Company (SOTRA) was set up during the 1960s to meet this demand. Originally the backbone of the city’s urban transport system, SOTRA’s limitations began to emerge during the 1980s, thereby spurring the growth of the informal sector.



## SOTRA's central role increasingly challenged by the informal sector

After Côte d'Ivoire became independent, Abidjan's public transport system gradually evolved to include the following key components:

- SOTRA, a semi-public company with equity capital of CFAF 3 billion, operates one of Sub-Saharan Africa's largest networks. Since 1960 its primary task has been to provide mass transport services within Abidjan city limits under a concession agreement with the State.
- Minibus services, or "gbakas"<sup>1</sup> – vehicles with 14-32 seats (most have 18 seats) – are operated by private transport operators on an informal basis, covering two main types of routes:
  - three legally authorized lines running primarily from Adjamé terminal to the three peripheral districts of Dabou (including Bimbresso), Anyama and Bingerville;
  - «illegally operated» lines on market segments within an area where SOTRA theoretically is the exclusive operator. Limited until 1992 to serving the Abidjan agglomeration districts of Abobo and Yopougon, the gbakas gradually invaded SOTRA's entire area of operation – a development which sector authorities virtually ignored – as SOTRA proved incapable of meeting demands in terms of schedules and coverage.
- There were some 1,000 city taxis, commonly called "woro-woros"<sup>2</sup> (private cars with four seats), in 1989; in 1998 there were nearly 5,000. Until 1992 they operated solely between districts, but with the devaluation of the CFA franc in 1994 and, in particular, the greater ease of importing used cars, in 1996 they began to offer expanded service to more places in market segments that were being neglected because of SOTRA's deficiencies;
- Private metered taxi services operated throughout the city. The fleet was estimated at 8,000 vehicles in 1998.

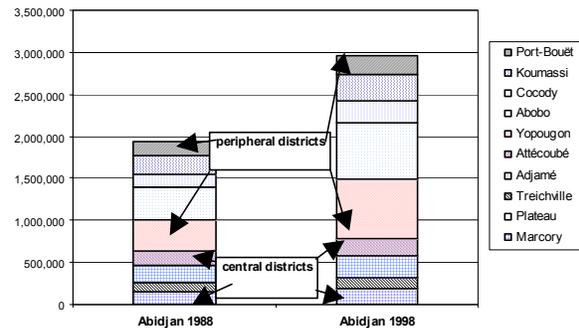
SOTRA has faced increasing structural and financial difficulties in recent years (including excess staff, management problems, unpaid government subsidies) which have rendered it unable to meet the demand for transportation. In 1988 SOTRA serviced nearly one out of every two trips, whereas in 1998 it accounted for only one in four motor vehicle trips. Its market share dropped from 47 percent in 1988 to 27 percent in 1998. (The most recent household survey was conducted in 1988; there have been no further surveys and the 1998 data are approximate and too favorable to SOTRA.). During the same period, the gbakas have nearly doubled their market share while that of the woro-woros increased from 16 percent to 27 percent (see Figure 2).

In order to overcome these difficulties and enhance the efficiency of the urban transport sector in Abidjan, in the

<sup>1</sup> In the Dioula language, "gbaka" means a vehicle in poor technical condition.

<sup>2</sup> In Dioula, "woro-woro" means "thirty francs-thirty francs." Fares are now over CFAF 100 but the name has stuck.

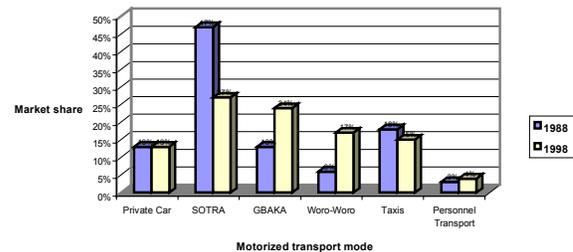
Figure 1  
Population distribution and growth in the 10 districts of Abidjan



mid-1990s the Government set out a wide range of options, most of which have yet to be introduced:

- Gradual rehabilitation of SOTRA's vehicle fleet to increase the number in operation from 541 in 1994 to 810. However, by 2000, the company had barely 500 vehicles in service.
- Implementation of a rehabilitation and financial restructuring plan for SOTRA covering the period 1994-2000. The plan cannot be deemed a success, inasmuch as in June 2000 the company was carrying a debt of CFAF 30 billion (six times higher than its equity capital);
- Concentration of the SOTRA fleet in a smaller area and transfer to a private operator of service to the Abobo and Yopougon districts. In June 2000 SOTRA was still serving the two districts even though the Government had signed a concession agreement with a private operator (SOTU) in 1998. SOTU still has not put a single bus in service in Abidjan, despite the fact that it was to have begun operations early in 1999.

Figure 2  
Evolution of the modal market share between 1988 and 1998



At the same time, the Government launched a study to consider the introduction of urban railway passenger service using existing railway infrastructure (currently operated by SITARAIL). The service is intended to complement SOTRA bus service and services supplied by private operators.

A positive development from the institutional standpoint is worth noting. In the interest of greater efficiency, in March 2000 the Urban Transport Management and Operations Agency (AGETU) was established to regulate and manage the entire urban transport sector.

### An efficient informal sector plagued by major negative externalities

Although the gbakas enjoy a favorable position in Abidjan under the modal split, system dysfunctions have created major external obstacles, including increased traffic congestion, a high accident rate, and air pollution. These problems are the result of four principal factors:

- The sector is highly fragmented, comprising a large number of small enterprises. On January 31, 1999 the fleet had approximately 3,000 vehicles, and 80 percent of owners possessed only one vehicle.
- The predominant vehicles are low-capacity minibuses. On January 31, 1999, 92 percent of the fleet consisted of vehicles with 14 to 22 seats.
- With the opening up of the market for used vehicles in 1996, the average vehicle age will increase in the next few years. In January 1999 more than one-half (55 percent) of the gbaka fleet was less than 10 years old and nearly half was older than five years.
- Drivers are pressured to push themselves to the limit to earn the daily amounts vehicle owners require, plus a sum to supplement their meager fixed monthly salaries.

These negative factors notwithstanding, the sector fulfills very valuable social and economic roles. According to SITRASS surveys and estimates in 1999, the sector provided approximately 12,000 direct jobs (drivers, conductors, mechanics and owners) and generated a turnover of CFAF 60 billion.

How is the gbaka sector financed and how profitable is the operation? Given the uncertainties affecting profits (for example, driver turnover and breakdowns), what help can be provided to promote the rehabilitation and sustainability of the sector, particularly with regard to replacing the vehicle stock? Answers to these questions follow.

### A sector with "obvious" prospects for profitability but uncertain prospects for sustainability

The objective here is twofold: firstly, to underscore the capacity of these microenterprises to produce a surplus sufficient for replacing the vehicle stock with equipment in good condition, particularly by purchasing safe equipment, whether new or, more likely, overhauled; and secondly, to determine the best ways to finance such acquisitions.

#### A sector financed primarily through traditional channels

The manner in which gbaka owners in Abidjan finance their operations does not appear to differ very much from how this is done in other African capitals. Vehicles are financed mainly through down payments or via the "work and pay" system, in the case of owner-drivers. However, Abidjan differs from Bamako, for example, in that a large number of owners (55 percent of the sample surveyed in 1999) indicated

that they had turned to financial institutions (such as banks and finance or leasing companies) at least once since they had been in business.

**Table: Investment payback periods based on the value of a renovated vehicle**

	Owner (1)	Owner (2)	Owner (3)
Value of a new vehicle	20 850 000	20 850 000	20 850 000
Constant monthly installment per franc of capital	0,0208847	0,0208847	0,0208847
Discretionary monthly cash flow	592 870	558 500	533 887
Payback period (months) based on percentage of cost of new vehicle			
70.00%	40	44	48
65.00%	36	39	42
60.00%	32	35	37
55.00%	28	30	32
50.00%	24	26	28

(1) Owner-driver with co-driver; (2) Owner-driver with no co-driver; (3) Owner  
Source : SITRASS, 1999

Given these financing sources, it is important to know fairly precisely the capacity of the operations for generating discretionary cash flow (i.e., current cash flow the operator can use at will) that may be spent on new equipment.

#### Profitability of operations and replacement of the vehicle fleet

A three-stage process was followed. (i) First, the financial return of the operation was calculated using the existing situation as the reference point and taking existing financing mechanisms into account. (ii) Second, the same calculations were made on the basis of financing arrangements that could be implemented to encourage operators to replace their vehicles. (iii) Finally, it was determined whether these new arrangements were attractive enough to encourage operators to replace their equipment and, where this was not the case, the financial conditions that should be satisfied in order to achieve that goal were identified.

The results of these calculations need to be put into perspective in the light of several factors. To begin with, for some gbaka owners, transport activities are only one source of income among others. This means that they have more financing options than in the scenarios detailed in our surveys. Furthermore, diversified investments are common in the sector, and the fact that a vehicle's operation yields a discretionary surplus will not necessarily prompt an operator to consider replacing it, even if the operator has no other more attractive investment opportunities.

The analyses carried out indicate that the operating conditions for gbakas in Abidjan are not such that new vehicles can be financed in a way that would yield a return satisfactory to operators accustomed to payback periods under five years and three-year loans. For example, in the case of a new 18-seat gbaka, the rates of return are nearly 10 percent with payback periods longer than seven years. Thus, where a maximum payback duration of three years is the goal, the best solution would be to purchase good-quality used vehicles.

Assuming a hypothetical scenario with concessional financing (with an interest rate of eight percent and down payment of 25 percent of the vehicle's value), a simulation was carried out to determine the profitability of operations for three different owners of 18-seat gbakas costing from 70 percent down to 50 percent of the cost of a new vehicle. Such variations are possible depending

on how much a vehicle has been renovated and the extent to which the overhaul was subsidized. The results are set out in Table 1.

The table shows clearly that for a vehicle costing 50 percent of the cost of a new one (roughly CFAF 10 million), the return is virtually the same as under the existing arrangements. However, under this scenario the overhaul would have to be subsidized or the owner would have to agree to performance standards he would be hard put to accept. However, at a cost of 55-60 percent of the cost of a new vehicle, the proposed solution could work. In addition, the payback periods appear to be too long.

Nevertheless, the above conclusion may be qualified in the light of several factors:

- A down payment above 25 percent, up to an amount yielding a discretionary cash flow, would produce more disposable cash after finance charges have been paid, thereby resulting in a more attractive payback period for a new vehicle. Some operators may well opt for such a solution and yield to the temptation to choose a new vehicle, thus profiting from the windfall resulting from subsidized financing.
- Fleet owners with multiple vehicles are more likely to decide to buy new vehicles if they can arrange to replace some of their existing vehicles. This way, they can free up a substantial sum by selling the older vehicles, thereby lowering the amount of financing they require and, hence, the finance charge they must pay.

In conclusion, the analysis of profitability and fleet replacement demonstrates that the following scenarios are possible from a strictly financial standpoint and given current operating conditions:

- Owners can finance a used 18-seat vehicle themselves. Such transactions are profitable because the investment is paid off in a little under one year.
- Another option would be to purchase a new vehicle of the same type on credit. However, this would not be a sufficiently profitable operation to interest operators, even at a subsidized rate (eight percent interest), since the rates of return would be low and the payback period would exceed seven years.
- However, owners might consider purchasing an 18-seat renovated vehicle on credit at a subsidized rate (rates of return of 30 percent and payback periods of about three years).

Subsidized rates will not prove viable in the sector unless Abidjan undertakes a complete overhaul of its urban transport system. That is why an authority is needed to manage the entire process within a broad framework providing for rigorous planning. AGETU should therefore serve as a forum for long-range planning of the urban transport system integrating the sector's multiple dimensions and varied challenges, in particular the following:

- human (the right to transport, particularly for the poorest population segments);
- economic (minimize investments and operating costs); and
- environmental (reduce negative externalities, including air pollution and urban traffic noise and congestion).

#### Urban Mobility (UM)

The main objective of the SSATP Urban Mobility Component is to promote transport policy reform. It pursues this objective through activities to improve institutional and regulatory frameworks, and road safety, particularly with regard to pedestrian safety, by carrying out studies of microenterprises, and launching an air quality management initiative, and by strengthening local capacity. The Component has currently 18 member countries.

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