

THE URBAN TRANSPORT REFORM IN DAKAR

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ABSTRACT

Dakar was chosen, in 1992, as pilot city for the conception and the implementation of urban transport reforms within the framework of the Sub-Saharan Africa Transport Policy Program (SSATP) in a crisis context.

The reform whose objective is to improve the transport sector so as to make it effective on a long term basis ; it consists of four main components that are its mainstay :

- an institutional and statutory framework ;
- a financial framework ;
- the total restructuring of public transport ;
- an increase in human resources.

An integrated program is being implemented within that framework; it is called the urban mobility Improvement Program. It is composed of five components:

- road infrastructures, traffic flow and safety
- measures to make trips secure along the railways
- supporting the leasing for the renewal of the public transport fleet accompanied by a professionalization of the sector ;
- improving the quality of air ;
- reinforcing the capacities.

We wish to share the first achievements and lessons drawn from a pilot reform.

1. CONTEXT

Dakar, capital of Senegal, was chosen in 1992 as pilot city as regards conception and implementation of deep urban transport reforms, within the framework of the Sub-Saharan Africa Transport Policy Program (SSATP)

That choice occurred in a difficult context characterized, in Sub-Saharan Africa, by an acute crisis in terms of urban trips, the effect of which were persistent structural difficulties that finally entailed in the 90s, the liquidation of most transport public companies and the emergence of traditional operators⁽¹⁾ who, gradually, filled in the gap created by the continuous decline of public transport offer.

The crisis of the urban mobility has a lot of causes:

- a transport policy which is not always clearly defined, whereas elaboration efforts have been made;
- an unfavourable social and economic environment in an adjustment context of the domestic economies accompanied by the Franc CFA African financial Community devaluation, in January 1994 ;
- an inadequate management characterized by a lack of control of the transport cost, transparency and strictness.

The emergence of non organised private operators and a non controlled urban dynamic have created very costly dysfunctions for the populations. Studies carried out in Sub-Saharan Africa, especially in Dakar and Abidjan, estimated that cost at about 4 to 4.5% of the GNP.

In Senegal, that period was that of the national economic adjustment the carrying out of an urgent plan for the restoration of the financial capacities of the State⁽²⁾ in 1993 and particularly, the transport sector adjustment. However, the urban transport sub-sector was not included in the general declaration of the 1989⁽³⁾ transport policy. Yet, two positive points can be noted: the clarification of the relationships between the State and the transport public companies, all modes taken into account, and the modernisation of that sector. In this case, we must mention the (Public transport company in Cap-Vert) Société des Transports en Commun du Cap-vert (SOTRAC), and the Société Nationale des Chemins de Fer du Sénégal (National Railway company of Senegal) (SNCS) for the rail servicing of the Dakar suburbs. It must be made clear that from 1980 to 1990, the market share for the public companies declined from 67% to 33% as regards the urban trips by public transport, the rest being carried out by informal operators who have become dominating.

2. URBAN PLANNING AND MOBILITY

The urban area of Dakar has been experiencing an urban planning for a long time. During the colonial time, the first plans were limited in terms of objectives (military strategy, then health coverage) and application fields (Plateau and Médina, in the South of the Peninsula) from 1862 to 1845. Just after the Second World War, the town planning programs from 1946 to 1957 even extended to the whole urban area of Dakar, remained favourable to the functional centrality of Plateau which is considered as an affluent, administrative and commercial mixed area.

On the other hand, during the post colonial period, the three master urban planning programs (PDU) that filed in and out in 1961, 1967 and 1981 (for the year 2001), aimed at creating a well balanced urban structure with three development poles ⁽⁴⁾ : the West of Dakar, the center of Pikine and the East of Rufisque.

The analysis of the strategic orientations of the urban plan and even the assessment of their implementation in 1974, 1984 and 1998 set out the relevance of the strategic actions, in other words the coherence of the urban projects as regards the strategic orientations of the master urban plan (PDU).

Thus, one can keep in mind the achievements and weaknesses mentioned hereinafter.

2.1 Achievements of the urban plan

They concern the institutional and financial framework as well as the physical developments. Regarding the institutional framework, urban planning and development tools and mechanisms were set up; they are as follows:

- The setting-up of the Traffic Office within the Ministry of Equipment in 1984, certainly in difficult conditions owing to a lack of dialogue between the people concerned.

- In 1988, the review of the town planning Code of 1966; a second review is underway, taking into account the reinforcement of the decentralisation in Senegal.
- In 1996, transfer of nine activities within the competence of the State, to the local Communities, the "Communes", in particular, in the fields of Environment, National and regional development, Planning, Urban Planning and Housing.
- In 2000, the setting-up of the "Droit à la Ville" Foundation, in charge of the restructuring and land regularization of "illegal districts";

As regards the financial framework one can note the creation of the Fund for the Improvement of (Housing and Town Planning) (Fonds pour l'Amélioration de l'Habitat et de l'Urbanisme (FAHU), in 1976, the setting up of the Banque de l'Habitat du Senegal, BHS (Bank for Housing), in 1979; creation of the Fonds de Restructuration et de la Regularisation foncière (Restructuring and Land Regularization Fund) in 1991.

In terms of physical developments, the achievements concern essentially:

- the restructuring and land regularization taking example from the Dalifort pilot operation in 1991;
- creation of (zones d'aménagement concerté) Concerted planning Zones from the example of the existing one in Mbao, in 1992

2.2 Restrictive factors

They concern conceptual and operational matters. A restrictive conception of the urban mobility was noted because the following things were not taken into account:

- the operators need space for the development of consignment and terminus areas; others need the building of maintenance and repairing workshops, and spare parts shops;
- the flux of pedestrians is getting higher and higher; according to the results of the survey carried out in families in 2000⁽⁵⁾, walking was preponderant with four trips out of five.

Moreover, major difficulties occurred regarding the mobilization of the expected financing, for the external contributions as well as the internal resources. That situation did not favour a good application of the urban planning; as a result:

- an investment delay as regards basic equipment and infrastructures in the transport sector where the founding ways expected in the 1981 Master Urban Plan were not built (case of the Dakar-Thiès motorway), or are being implemented case of the Northern Relief Road [Voie de Dégagement Nord, (6 km out of 46)].
- proliferation of "the illegal housing", which may entail a scarcity of landed properties and a dishonest compromise over the areas reserved for the transport infrastructures (case of the motorway projects and the Northern Relief Road).

Furthermore, it was noted a lack of coordination between the different workers on the public roads, which entailed negative consequences on the quality and service level of the infrastructures : it is the case of the road breaking up by the company concessionaries, and the trespassing of the pavements by different kiosks and stalls, depriving the pedestrians of secure space.

Thus, the difficulties due to the urban planning and practices have led to:

- an unbalanced development of the urban area at the expense of the suburbs: Pikine, Guédiawaye and Rufisque (see maps 1 and 2)
- Very hard mobility conditions particularly in the suburbs.

2.3 Consequences on urbanisation and mobility

2.3.1 Non-controlled urbanisation

Dakar and its suburbs have an area of 550 square kilometres that is 0.3% of the national territory:

- They had 2,267,356 inhabitants in 2002, which represented 22.8% of the Senegalese population ;
- They had 55% of the GDP

That population, as well as the activities and wealth created are not evenly distributed between the three poles of development of the urban area, as shown by chart 1 and map 2. Moreover, the matrix analysis of the urban functions which was carried out in 2000⁽⁷⁾ confirmed the super centrality of Plateau.

Chart 1. Population and income distribution

* €1 = 655.957 F CFA

Poles	Population (2002)	Medium income monthly per family (2001)
Dakar centre	955,897	130,935 CFA*
Pikine Guédiawaye	1,027,196	80,478 CFA
Rufisque-Bargny	284,263	77,323 CFA

The reason for that unequal distribution were certainly the Master Urban Plan orientations of 1967 that recommended the freezing of the urbanisation in the East of Pikine, but also a lack of control and even a bad command of the urban dynamic, which justified a bigger increase of the "illegal housing" mainly in Pikine and Guédiawaye during the long dry season, in particular. A densely populated area was noted in Médina-Gounass (916 inhabitants per hectare) and in the South of Yeumbeul (852 inhabitants per hectare).

About 40% of the population in the urban area of Dakar lives in illegal districts, and is faced with recurrent floods because of the return of the rainy

seasons. It is only in 2006 when the State started taking daring transfer measures within the Diakhaye Plan framework so as to offer decent houses to the disaster victims.

2.3.2 Tiring mobility

The total flux of the daily trips in Dakar and its suburbs was estimated in 2000 at 2,968,250 in days worked, 2,370,225 of which on foot, that is 79.9%, thus confirming the preponderance of walking.

- The motorized trips are itemized as follows :
 - 82.4% by public transport, 57.9% of which by buses called "cars rapides" and "ndiaga ndiaye" that belong to traditional operators ;
 - 17.6% concern the other modes, 9.2% of which by private cars and 5.1% by two-wheeled motorcycles.
- As regards sex and age, the 14 to 29 years old young people, all sexes taken into account, travel more, which represents 58.7% of the total flux. As far as those aged 14 and more are concerned, women's trips are estimated at 50.9%, whereas the mobility rate is 3.7 trips a day for men and 3.2 for women.
- Concerning the reason for travelling, work (26.5%), social nature visits (19.3%) and shopping (17.2%) constitute the main motives for people aged 14 or over. If school trips come fourth (8.8% for this category of the population), yet they are preponderant for the 4 to 13 years old children around 94% mostly on foot (92%) considering the proximity of the primary schools.

In general, trips on foot as well as those which are motorized are made in difficult conditions due to an insufficiency of infrastructures in terms of density and service quality, and owing to problems of blocked pavements and roads, on the one hand, and breaking the Highway Code, on the other hand. Those difficulties increase as one goes away from Plateau: as a matter of fact, the transport costs get higher and the families' income more hypothetical⁽⁸⁾

In fact, the roads are not evenly distributed between the towns of the Dakar area ; Dakar has a density of 57 metres per hectare, Rufisque 41m per hectare, Guédiawaye 23 m per hectare and Pikine 14 m per hectare, and the maintenance level remains low, particularly in the suburbs.

The fleet of vehicles, estimated at 161,600 in January 2004 that is 74% of all the vehicles running in Senegal (218,404) is distributed as shown in chart 2. Private cars are particularly used in the affluent districts, whereas the public transport and taxis are used in the popular districts and traditional villages, respectively. That fleet is characterized by its being old and obsolete, owing to a lack of regular maintenance.

The motorization rate is 16.7 vehicles for 1,000 inhabitants. It is higher in the affluent districts (54 and 106 vehicles for 1,000 inhabitants for the medium and high social standing, respectively), and lower in "illegal housing" areas (5 vehicles for 1,000 inhabitants).

Chart 2 - Fleet of vehicles distribution

Sources : CETUD (EMTSU 2000)

Areas	Private cars (%)	Taxis (%)	Public transport (%)
Affluent districts	52	4.6	7.1
Popular districts	16.7	12.5	53.2
Traditional villages	23.4	73.9	39.1
Illegal districts	2.6	3.4	0.6
Others	5.1	5.6	-

3. STRATEGIC PLAN OF THE REFORM

3.1. Preliminary process

In May 1992, Senegal housed a seminar, at Saly Portudal, for the first time ever for all the people concerned with the sector, especially the private operators, in order to ponder over the crisis situation of the urban transport and on long-term basis solutions to be brought into, with the help of the World Bank and the French Cooperation (Coopération française).

That date remains a milestone for the professionals of the sector and for the traditional operators in particular. As a matter of fact it marked a collective awareness of the necessity of a common and even participative approach capable of creating the necessary consensus for an exhaustive diagnosis and the formulation of strategies aiming at a long-term basis urban mobility, especially in a context of a dominating sector, also known as informal, with a market share in the trips by public transport in continuous growth, rising from 33% in 1980 to 68% in 1995.

That decision-making seminar in September 1995, at the end of two years' works by the preliminary Committee set up in 1993, decided on the vital need of the reform and the necessity of a global approach for a complex and sensitive sub-sector.

3.2. Stakes and challenges

The stakes are social, economic and environmental, whereas the challenges are technical, technological and financial.

The study carried out by CETUD in 1998, relating to the problems of the urban transport⁽⁹⁾ cost confirmed the nature and the importance of the reform stakes that were identified by the preliminary Committee. The total cost, estimated at 108 billion F CFA (€165 million) was broken up into three headings:

- 63 billion F CFA (€96 million) for the urban pollution ;
- 41 billion F CFA (€63 million) concerning the heavy traffic ;
- 4 billion F CFA (€6 million) as regards the road accidents.

Thus, the first stake is relating to the preservation of the environment throughout a contribution by the sector in the creation of a better urban living quality. The corresponding challenges consist in:

- decreasing the pollution of the air created by the car traffic that is itself essentially composed of old and timeworn vehicles because of a lack of regular maintenance ;
- eliminating the traffic jams of any nature, on the urban roads ;
- improving the urban scene.

The second stake is economic and it concerns the improvement of the movement of people and goods so as to minimise the time wasted in the traffic, for the benefit of work and trading. The challenges to take up consist in :

- professionalizing the sector, especially the traditional operators ;
- integrating the public transport services ;
- facilitating the traffic for the public and goods transport vehicles ;
- rationalizing car parking.

The third stake is social ; it concerns the security and safety for urban trips. The related challenges consist in :

- controlling the public field of transport infrastructures ;
- intensifying the conditions in the driving licence delivery, all categories taken into account ;
- improving the transport infrastructure and service users' behaviour ;
- upgrading the quality of transport infrastructures and services.

The invariant or federative challenges of those major stakes lie in the sector organisation and in the mobilization of the necessary resources, in terms of investment and operating.

3.3. Objectives and strategic actions

The main objective of the reform is to improve the urban sub-sector transport so as to make it effective on a long-term basis⁽¹⁰⁾.

That objective is in coherence with the global policy of the State, in particular in the 9th orientation Plan for the economic and social development of the country (1996-2001).

Among others, that plan aims at:

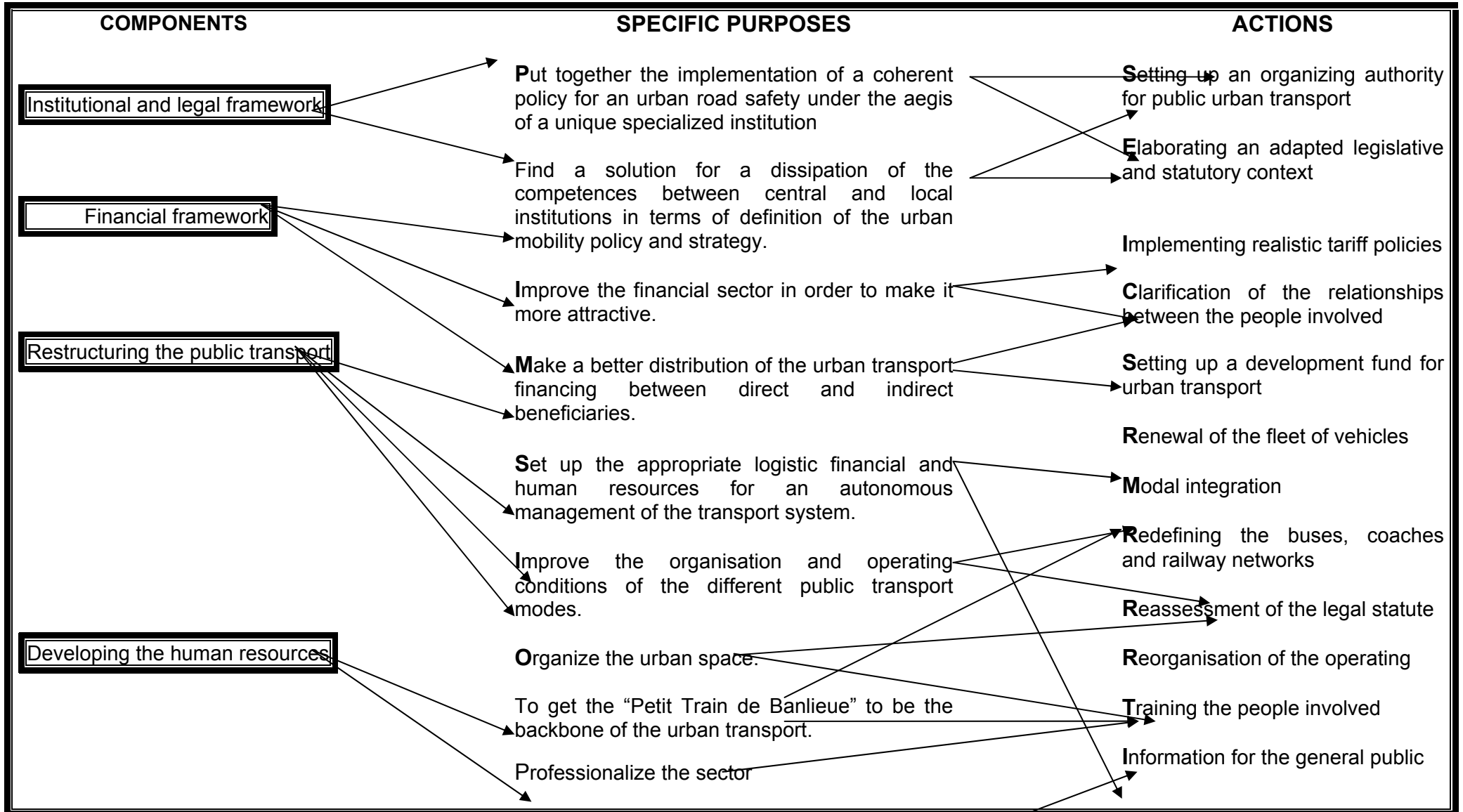
- making the statutory framework more capable of promoting a healthy competition between the different people involved, and favourable to the reinforcement of investments ;
- developing the private initiative and encouraging the transformation in the self organisation field ;
- improving the quality of the State's intervening in services and basic infrastructure supply.

The reform is essentially composed of the following components:

- the institutional and statutory framework ;
- the financial framework ;
- the public transport restructuring ;
- the human resources increase.

The specific purposes to the different fields hereinafter and the future strategic actions are shown in the following chart 1.

Chart 1 – Specific purposes and strategic actions



Develop an information system for the users →

Develop the human resources of the sector

4. STAGE APPRAISAL AND PROSPECTS

4.1. Implemented projects

Within the framework of the reform setting up, two projects were created in the continuation of one another.

The project for the reform and upgrading of the expertise capacities was financed over the 1997-2001 period by the Senegalese State and the International Development Association (IDA) to the extent of about 3.5 billion F CFA (€ 5.3 million) ; it has helped to create the organizing authority (CETUD), the regular functioning of its organs, the carrying out of studies in order to know the sector and justify the investments necessary for the development of that sector ; the project has also permitted to make possible the training of the people involved and a few equipment and infrastructure developments for urban transport.

The Urban Mobility Improvement Program (Programme d'amélioration de la mobilité urbaine) (PAMU) aims essentially at improving the effectiveness, the accessibility and the environmentalist quality of the trips in Dakar and its suburbs, on a long term basis, with a particular attention for the underprivileged populations, by backing up the promotion of public transport, and even for the pedestrians' comfort and safety. The first stage to be carried out over the 2002-2007 period for an amount of 65 billion F CFA (€ 99 million), was financed by the Senegalese State, the Senegalese private operators, IDA, Agence française de développement and the (Fonds Nordique de Développement) Nordic Fund for Development.

The state of implementation of the five (5) components is as follows:

- Road infrastructures, safety and free flow traffic :
 - Building 64 crossroads, 27 of which in Dakar, with 2 uneven crossroads, 8 in Pikine, 2 in Guédiawaye, 16 in Thiès and 11 in Kaolack, to make the identified blackspots disappear ;
 - Rehabilitating and building 47 primary and secondary roads, 18 of which in Dakar, 7 in Pikine, 14 in Guédiawaye and 8 in Rufisque-Bargny ;
 - Building pavements for 95 km, particularly in the suburbs ;
 - Building interurban and urban bus stations in Pikine and Dakar, respectively, building footbridges, too ;
 - Making the pedestrians feel more secure by putting level crossing gates and taking charge of them by the traffic lights.

Those investments are estimated at 37 billion F CFA (€ 56.4 million)

- Railway section

The works to make secure trips along the railways (surrounding walls and level crossing gates), to improve the quality of the service (building a third way and rehabilitating ways 1

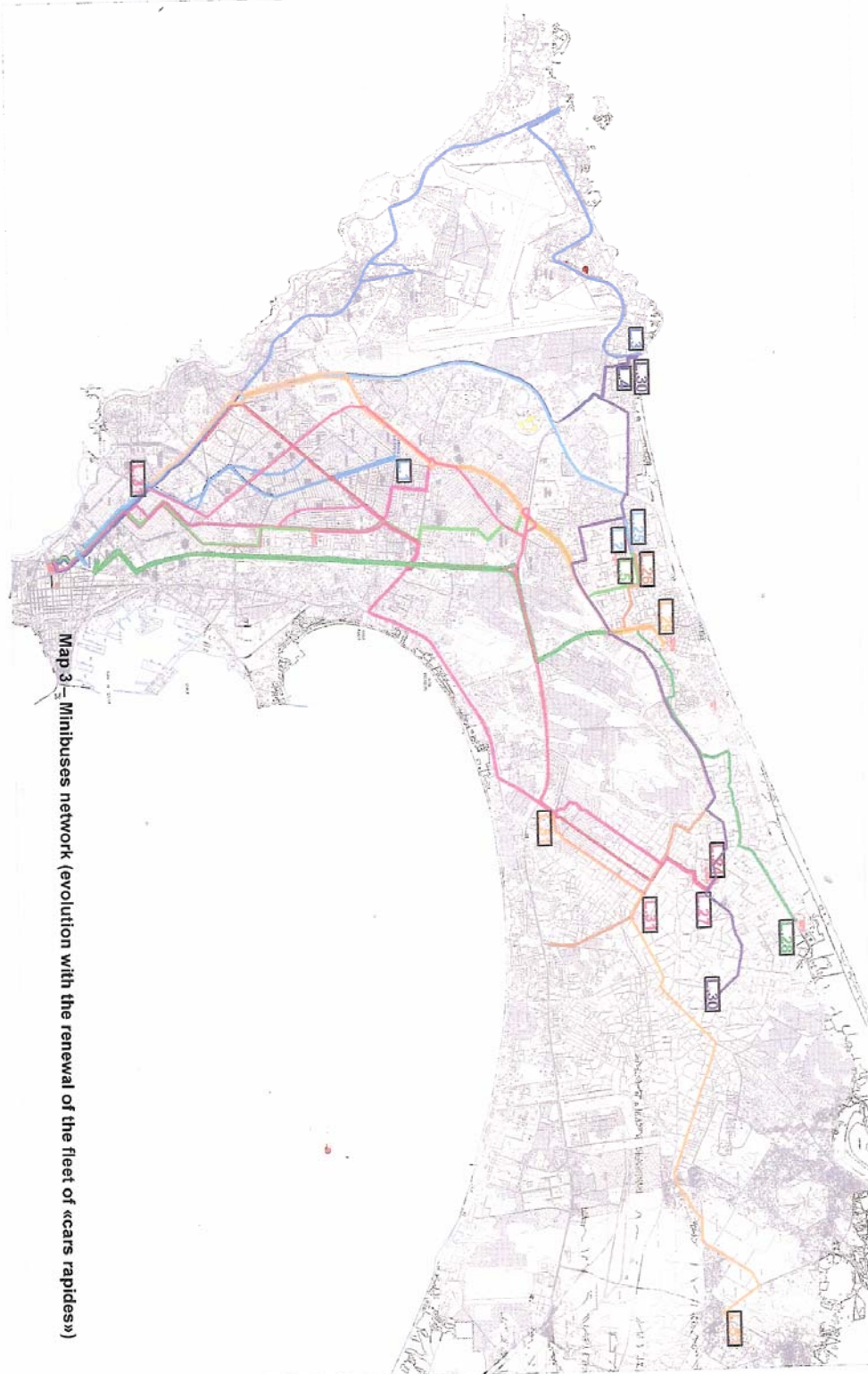
and 2 (and the works to build the goods terminal of Dakar Centre at Bel-Air, as well as the maintenance installations for the rolling stock, are in progress.

- Renewal of the "cars rapides" fleet and professionalisation of the operators
 - 293 minibuses out of the 505 ordered units have been delivered. They are being operated on 17 bus routes (see map 3) on a contract basis between CETUD and the transport companies operators' GIE (Economic Interest Groups).
 - 90 operators, 575 drivers and 500 bus conductors got an appropriate training for this purpose. The training modules are :
 - for the operators :
 - human resources management ;
 - financial management ;
 - technical management of a fleet of vehicles for public transport ;
 - operating a fleet of vehicles for public transport ;
 - accounting and finance management
 - for the drivers :
 - economical and secure driving ;
 - trading relationships;
 - road safety ;
 - first-aid ;
 - for the bus conductors :
 - ticket machine management ;
 - trading relationships ;
 - first-aid
- Quality of air management
 - elimination of the lead from petrol, since 2005
 - institutional setting up (in progress) of the three vehicles technical control centres and of the quality of the air laboratory
- Reinforcement of the capacities and institutional support
 - consolidation of the urban transport development Fund, with the contribution of the local communities expected this year ;
 - completion of the urban mobility plan (in the course of the 2007 second quarter) ;
 - carrying on organising studies for the sector

Chart 3 - Performances of the PAMU (Urban Mobility Improvement Project)
Source: CETUD

- Road 1** : Avenue Cheikh Ahmadou Bamba, between Avenue Bourguiba and the Obelisk
Road 2 : Route de Rufisque, between Carrefour Capa and Pikine
Road 3 : Avenue Blaise DIAGNE, between Boulevard de la Gueule Tapée and Avenue Malick SY

Criteria	Reference Situation		Objectives in	Assessment in 39
			36 months' time May 2004	months' time August 2004
Increase in trading speed in public transport, in rush hours, on strategic roads	Road1	10.66 km/h	11 km/h	11.78 km/h
	Road 2	20 km/h	22 km/h	19.32 km/h
	Road 3	13.66 km/h	14.7 km/h	20.76 km/h
Decrease in pollution given out by motorised transport	Carbon monoxide	25.223 t/year	25.097 t/year	26.623 t/year
	Nitrogen oxide	18.458 t/year	18.366 t/year	18.787 t/year
	Hydrocarbon	3.932 t/year	3.912 t/year	4.072 t/year
Decrease in the number of serious traffic accidents (Relating to the fleet for 1,000 vehicles)	Accidents involving physical injuries	63.08%	61.81%	44.3%
	Mortal accidents	5.93%	5.68%	1.7%



Map 3 - Minibuses network (evolution with the renewal of the fleet of «cars rapides»)

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The chart gives an indication of the performance level of PAMU, halfway to the end of the Project⁽¹¹⁾ The results are mitigated owing to the late start of the project in a context of a change in regime, and to difficulties inherent to the reform pilot nature. The performance criteria will really be meaningful when the works and supply programmed in the first stage of PAMU are completed, but only just!

4.2. Achievement and lessons

A pilot reform, especially in a developing country is obviously carried out with difficulties, not only in its conception stage, but also in the different steps of its being implemented.

The reasons are related to the history and the geographical position of our countries, their democratisation and decentralisation process; they are also linked to the knowledge of the transport sector and its environment.

The first achievements and lessons of the reform are shown in chart 4 hereinafter. The participative approach has helped the public and private people involved to have talks and recognize CETUD as the organizing and regulating authority. The selective recruitment (after a job offer) of its managerial staff, particularly the Chairperson of the Board and the Managing Director, is well appreciated by people; that have given the institution its whole legitimacy.

Chart 4 - Achievements and lessons

Components	Achievements	Lessons
Institutional and statutory framework	<ul style="list-style-type: none"> - Setting-up the organizing authority in 1997, the Conseil Exécutif des Transports Urbains de Dakar (CETUD), partnership framework between the State, the local communities and the private sector. - Orientation law for the land transport in 2003 and the review of the Highway Code in 2002-2004 (boost and backing-up). - Setting up an urban mobility charter signed by all the people involved, in June 2003 	<ul style="list-style-type: none"> - Positive participative approach (responsibilisation and commitment of the people involved). - Need of a consensus search as much as possible , in decision-making, so as to make its application easy.
Financial framework	<ul style="list-style-type: none"> - Setting up the development Fund for urban transport - Setting up a financial mechanism for the renewal of the fleet of vehicles for public transport - Creation of a Mutual savings and credit company 	<ul style="list-style-type: none"> - The crisis context has not facilitated the Fund setting up and above all the mobilization of the local communities and operators' contribution : necessity of flexibility. - The operators find it difficult to mobilize their 25% contribution (realism in the negotiations)
Restructuring public transport	<ul style="list-style-type: none"> - Redefining the public transport networks for buses and coaches in 2000. - Elaborating terms of reference defining the public transport vehicles specification (buses, coaches, taxis) in 2000. - Changing the Petit Train de Banlieue (PTB) into a limited liability company, in 2003. - Creation of 13 GIE (Economic Interest Groups) regrouping 446 operators and a fleet of 1,357 buses, federated into a financing Association for the urban transport professionals, in 2001 - Network operating contract signature with Dakar Dem Dikk transport company, in December 2003, le PTB in July 2004 and the carriers' GIE (Economic Interest Groups) from December 2005 	<ul style="list-style-type: none"> - Pertinence and realism as regards the professionalization of the traditional operators. Humbleness, too. - Realism when defining the terms of reference - Difficulties in finding foreign operators for the privatisation of former SOTRAC (sharing risks) : mobilize the national private sector and the conditions for a sustainable management of companies.
Reinforcing the capacities	<ul style="list-style-type: none"> - Knowledge improvement of the sector - Training 6,575 drivers, 500 bus conductors, 90 carriers - Training central and decentralised administration managers 	<ul style="list-style-type: none"> - Motivation of the people involved and of the informal sector, particularly

Besides, the professionalisation of the sector is getting the different people involved to feel more confident. Thanks to the operating contracts signed between CETUD and the carriers' GIE (Economic Interest Groups), the travellers pay less (25 to 30%) and gain time as a result of the abolition of the lines splitting-up.

Those achievements, some of which are still fragile, should be consolidated.

4.3. Prospects

The implementation of the reform should be carried on, taking into account the achievements and lessons accumulated.

In this respect, the PAMU second stage that is viewed over the 2008-2012 period is being prepared.

The recommendations and the action plan stemming from the urban mobility program form its foundation.

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