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PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 52.2 MILLION
(US\$70 MILLION EQUIVALENT)

TO THE

REPUBLIC OF SENEGAL

FOR AN

URBAN MOBILITY IMPROVEMENT PROJECT

IN SUPPORT OF THE FIRST PHASE OF THE

URBAN MOBILITY IMPROVEMENT PROGRAM

May 4, 2000

Water and Urban II
Country Department 14
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 10, 2000)

Currency Unit = FCFA
FCFA 1 = US\$ 0.0015
US\$ 1 = 650 FCFA

FISCAL YEAR
January 1 - December 31

ABBREVIATIONS AND ACRONYMS

AF	<i>Association de Financement</i>
AFD	<i>Agence Française de Développement</i>
AGETIP	<i>Agence pour l'Exécution de Travaux d'intérêt Public</i>
APL	Adaptable Lending Program
CAS	Country Assistance Strategy
CETUD	<i>Conseil Exécutif des Transports Urbains de Dakar</i>
DCA	Development Credit Agreement
ERR	Economic Rate of Return
FY	Fiscal Year
GDP	Gross Domestic Product
G.I.E.	<i>Groupement d'Intérêt Economique</i>
GOS	Government of Sénégal
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDA	International Development Association
IRR	Internal Rate of Return
MEF	Ministry of Economy and Finance
MET	Ministry of Equipment and Transport
NBF	Non-Bank Financed
NGO	Non-governmental Organization
NDF	Nordic Development Fund
PPF	Project Preparation Facility
PTB	<i>Petit Train Bleu</i>
SNCS	National Railroad Company/ <i>Société Nationale de Chemins de Fer du Sénégal</i>
SSATP	Sub-Saharan Africa Transport Policy Program
TA	Technical Assistance
UMIP	Urban Mobility Improvement Project
UTDF	Urban Transport Développement Fund / <i>Fonds de Développement des Transports Urbains</i>
WBI	World Bank Institute

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SENEGAL
URBAN MOBILITY IMPROVEMENT PROJECT

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MAP(S)

Map: IBRD 30877

SENEGAL
URBAN MOBILITY IMPROVEMENT PROJECT
Project Appraisal Document

Africa Regional Office
AFTU2

Date: May 4, 2000	Team Leader: Patrick Bultynck
Country Manager/Director: Mahmood A. Ayub	Sector Manager/Director: Letitia A. Obeng
Project ID: P055472	Sector(s): TU - Urban Transport
Lending Instrument: Adaptable Program Loan (APL)	Theme(s): Urban Poverty Targeted Intervention: N

Program Financing Data					Borrower	
APL	Indicative Financing Plan			Estimated Implementation Period (Bank FY)		
APL 1 Loan/ Credit	IBRD US\$ m	%	Others US\$ m	Total US\$ m	Commitment Date	Closing Date
	70.00	68.0	33.00	103.00		12/31/2004
APL 2 Loan/ Credit	25.00	79.6	6.40	31.40		12/31/2007
APL 3 Loan/ Credit						
APL 4 Loan/ Credit						
Total	95.00		39.40	134.40		

Project Financing Data					
<input type="checkbox"/> Loan <input checked="" type="checkbox"/> Credit <input type="checkbox"/> Grant <input type="checkbox"/> Guarantee <input type="checkbox"/> Other (Specify)					
For Loans/Credits/Others:					
Amount (US\$m): 70					
Proposed Terms: Variable Spread & Rate Single Currency Loan (VSCL) Grace period (years): 10 Years to maturity: 40 Commitment fee: 0.5% Service charge: 0.75%					
Financing Plan:	Source	Local	Foreign	Total	
GOVERNMENT		2.40	1.20	3.60	
IBRD		21.00	49.00	70.00	
IDA		3.70	13.60	17.30	
AGENCE FRANCAISE DE DEVELOPPEMENT		4.40	3.20	7.60	
NORDIC DEVELOPMENT FUND		4.50	0.00	4.50	
OTHER		0.00	0.00	0.00	
MULTILATERAL INSTITUTIONS (UNIDENTIFIED)		36.00	67.00	103.00	
Total:					

Borrower: MINISTRY OF EQUIPEMENT AND TRANSPORT

Responsible agency: CETUD (CONSEIL EXECUTIF DES TRANSPORTS URBAINS DE DAKAR)

Conseil Exécutif des Transports Urbains de Dakar (CETUD)

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Association de Financement (for the leasing mechanism)

Estimated disbursements (Bank FY/US\$M):

FY	2001	2002	2003	2004	2005		
Annual	7.0	17.5	24.5	17.5	3.5		
Cumulative	7.0	24.5	49.0	66.5	70.0		

Project implementation period: APL : 7 years. Phase 1 : 4 years. Phase 2 : 3 years

Expected effectiveness date: 09/15/2000 **Expected closing date:** 12/31/2004

DCS APL PAD Form: Rev. March, 2000

A. Program Purpose and Project Development Objective

1. Program purpose and program phasing:

The objective of this Adaptable Program Lending (APL) operation is to contribute to the improvement of the safety, efficiency, and environmental quality of urban mobility in the Dakar metropolitan area, especially for the urban poor, and improve road safety in Thiès and Kaolack. It will do this by (i) promoting public transport services and (ii) ensuring the safe movement of pedestrians and road users.

Rationale for a Program (APL)

In May 1997, the World Bank approved the Urban Transport and Capacity Building (Technical Assistance--TA) Project, a credit of US\$6.6 million, to assist the Government of Senegal (GOS) in the implementation of a comprehensive institutional and regulatory reform program, outlined in Senegal's 1996 Urban Transport Policy Letter. This project has helped pilot the establishment of an institution in Dakar, with representation from various stakeholders and important actors of the urban transport sector : ministries, municipalities, industry. This body, the *Conseil Exécutif des Transports Urbains de Dakar* (CETUD) is the first of its kind in Sub-Saharan Africa. It coordinates actions that address major urban mobility issues in Dakar. In addition, the TA Project is supporting privatization of the public transport company (SOTRAC), a comprehensive training program for minibus (*Cars Rapides*) drivers and studies to identify future investments within an intermodal policy framework encompassing all modes of transport. The construction of two bus stations (Daroukhane and Parcelles Assainies) as well as equipment for two bus terminals (Ilot Petersen and Lat Dior) are also being supported.

However, no major investments were included in either the TA Project or in other related projects, such as the ongoing Transport II Project and the Urban Development and Decentralization Program. Agreement was reached between the GOS and IDA that urban mobility issues are sufficiently important and separate to warrant the preparation of a free-standing Urban Mobility Improvement Project (UMIP). During preparation of the UMIP, it was noted that the new institutional body in Dakar which is considered as a pilot city in Sub-Saharan Africa, represents sector stakeholders and coordinates major urban mobility issues.

Within this context, a comprehensive program of investments has been identified by the GOS, in partnership with IDA and other donors. The five components of the program are designed to ensure sustainable mobility and they integrate safety, efficiency, reliability, and environmental health protection. The investments and activities included in the components are aimed at achieving two complementary objectives: (a) promoting the role of the private sector in the provision of public transport services; and (b) ensuring the safe movement of pedestrians and road users. Through such an approach, the Program will help alleviate the burden of negative externalities on urban productivity and contribute to improving the living conditions of the urban poor.

During the preparation of the UMIP, the Bank and the GOS agreed that the technical readiness of some investments was not mature enough, at this stage, to be considered within a single operation.

Therefore, in keeping with the principle of an intermodal and comprehensive approach to solving Dakar's urban transport crisis, the UMIP is designed to be implemented in two phases within an APL operation. Agreement was reached between the GOS and IDA on the Program's long-term development objectives, program justification, description of the required investments and activities, and the sequence of their implementation, with milestones, performance indicators, and policy requirements.

The Program's five components are:

1. Rehabilitation of urban roads, together with road safety and traffic management measures;
2. Implementation of measures for pedestrian and traffic safety along the suburban railway line;
3. Financial support, through a leasing mechanism, for the partial renewal of the public transport fleet;
4. Support for implementation of an Urban Air Quality Management Strategy; and
5. Strengthening of local expertise and institutional capacity in urban mobility; involvement of Union leaders in the advocacy of more HIV/AIDS prevention activities; technical studies; and support for CETUD, the implementing agency.

The Program's total cost is estimated (with contingencies and inflation) at US\$134.40 million. The first phase would cost US\$103 million, or about 77 percent of the Program. By the end of the Program's second phase, the following activities/outputs are expected to be carried out:

- Urban road and urban transport infrastructure (such as sidewalks, crossroads, bus stations, and stops) in Dakar will have been rehabilitated, redesigned, and maintained (through traffic management measures and road safety action plans);
- Old public transport vehicles will have been partially rehabilitated/renewed in accordance with safety and environmental standards;
- Measures for pedestrian and traffic safety along the suburban railway line will have been implemented and the operation of the suburban railway line awarded to a private concessionaire; and
- Sustainable reduction in negative externalities, such as air pollution, traffic congestion, and road accidents, will have been obtained.

Program phasing

Phase 1:

The activities to be carried out during this phase include: (i) basic urban road repairs and resurfacing; (ii) improving efficiency of the road network; and (iii) opening some un-served or under-served urban areas to public transport services. In addition, a comprehensive Road Safety Action Plan, combined with traffic management measures, will be implemented. This will include the construction/improvement of sidewalks, pedestrian footbridges, traffic lighting, protection of non-motorized traffic (through the construction of paths segregated from motorized traffic), construction of terminals for buses and *Cars Rapides*, construction of stations on the outskirts of Dakar to alleviate downtown congestion from interurban traffic and trucks, and preparation of an Urban Mobility Plan with the long-term perspective of integrating planning and potential decentralization of offices and services.

Other activities to be carried out include: (a) concessioning of the suburban railway services to the private sector, using consulting services, and (b) implementing some basic measures to protect pedestrians and traffic movement along the suburban railway line. Under the latter component, a third track will be constructed between Hann and Fass Mbao; the railway right-of-way will be fenced along the suburban railway line; footbridges constructed and railroad grade-crossings eliminated (through construction of overpasses or underpasses) or improved. Phase 1 of the Program will also finance rehabilitation of Dakar's central railway station, an architectural landmark, as well as the Rufisque railway station.

Financial and technical support will be provided for the development of a leasing mechanism required for the renovation and rehabilitation of public transport vehicles (*Cars Rapides*).

An Urban Air Quality Management Strategy will be designed and implemented to reduce the level of pollution generated by motorized transport. Initiatives included in this strategy are: (a) construction of three automobile monitoring centers; (b) establishment of an observatory to track urban pollution; and (c) introduction and supervision of an urban air quality action plan including (but not limited to) the gradual introduction of unleaded gasoline, support for decentralization of certain administrative centers to the city's outskirts, public awareness campaigns targeting users and sector specialists (for example, automobile and fuel distributors), and a toxic emissions control program targeting motorized vehicles.

Phase 2:

The main activities to be carried out in this phase include:

- Finalization of the program for the renewal of the public transport fleet, based on lessons learned during the first phase and the degree of professional and managerial capacity gained by the operators/owners of the vehicles;
- Completion of the rehabilitation of urban roads keeping with Road Safety Action Plan and Traffic Management measures; and
- Complementary investments in the suburban railway line, based on the technical and operational configuration of the concessioning (the principle and amount of the investments have to be confirmed).

The conditions (triggers) to be met for considering Phase 2 were discussed and agreed upon with the GOS as follows:

Component/activities	Conditions (triggers) to be met
Finalization of the urban road network to be rehabilitated and the integrated road safety measures to be undertaken	<ul style="list-style-type: none"> * 75% of the civil works included in Phase 1 carried out; * Appropriate budget committed for the maintenance of civil works financed by the project * Adoption of an Urban Mobility Plan (<i>Plan de Déplacement</i>) endorsed by the major stakeholders and adopted by the GOS.
Second phase of the Urban Transport Leasing Scheme	<ul style="list-style-type: none"> * 90% of the lease payments due and payable by the operators under the lease contracts have been paid (the 10% balance being recovered after the trigger date for Phase 2) * 80% of the <i>Cars Rapides</i> financed under the leasing scheme operate on specific itineraries and under concessioning agreements
Measures to protect the movement of pedestrians and traffic along the suburban railway line	<ul style="list-style-type: none"> Adoption of a coordination plan for public transport services including the suburban railway line Concessioning of the suburban railway line to a private operator
Urban Air Quality Management	<ul style="list-style-type: none"> Update of the September 1996 Urban Transport Policy Letter and taking account of the relationship between transport and the environment
Strengthening role of the CETUD	<ul style="list-style-type: none"> Reinforcement of CETUD's role as a regulatory institution through update of the 1997 law establishing CETUD

Since the Program is to be implemented in two phases, any references to the “project” in the remainder of this document will be only to the first phase.

2. Project development objective: (see Annex 1)

Improve the safety, efficiency, and environmental quality of urban mobility in the Dakar metropolitan area and road safety in Thiès and Kaolack. Special attention will be paid to improving mobility for the urban poor by: (i) promoting public transport services, and (ii) ensuring the safe movement of pedestrians and road users.

3. Key performance indicators: (see Annex 1)

The following outcomes are the key performance indicators for meeting these development objectives :

Improved level of service and reduced traffic congestion in the Dakar metropolitan area as a result of :

- Construction/rehabilitation of urban roads and infrastructure for public transport;
- Traffic management measures, including traffic priority measures for public transport;
- Long-term land-use planning and control (integration of land use, roads, and transport policies); and
- Concessioning of suburban railway services, which will become the backbone of public transport.

Increased throughput (in terms of passengers) of public transport corridors as a result of :

- Improved management of bus operations;
- Implementation of an intermodal and coordinated policy promoting public transport;
- Concessioning of suburban railway services;
- Construction of interchange stations (bus, minibus-rail) facilitating safe transfer for passengers; and
- Improved access to remote urban areas.

Reduced levels of air pollution through:

- Progressive introduction of unleaded gasoline;
- Vehicle emission control program;
- Progressive renewal of the old public transport vehicles (*Cars Rapides*); and
- Implementation of an Urban Air Quality Management Strategy.

Reduced accidents per capita as a result of :

- Traffic management measures (bus terminals, bus stops, signaling, and marking);
- Public awareness campaigns and stakeholder participation;
- Physical protection of pedestrians from motorized traffic (footbridges and sidewalks);
- Protection of non-motorized transport; and
- Measures and investments to protect pedestrians and traffic along the suburban railway line.

Improved effectiveness and efficiency of the urban roads network as a result of :

- Appropriate design of urban roads and intersections to eliminate traffic bottlenecks and accommodate the safe flow of public transport and pedestrian movements;
- Improved access to some enclaved urban areas; and
- Construction of metered parking slots.

Strengthened management capacity as a result of :

- Increased private sector role in providing urban transport services, construction, and management of some urban infrastructure (such as bus terminals), concessioning of suburban railway services, and award of civil works to small-scale local entrepreneurs;
- Training sessions for *Cars Rapides*' owners and institutional strengthening of key agencies.

Most of the rights and commitments of the sector's main constituencies will be integrated into a "Mobility Charter" encompassing the key performance indicators (see Annex 11 for the key figures and objectives of the performance indicators).

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: Report No 17269-SE

Date of latest CAS discussion: 01/22/98

The Bank's Country Assistance Strategy for Senegal is to support policies and investments that will encourage economic growth and social development. The proposed Project addresses several aspects of the CAS: (a) it contributes to environmentally sustainable growth by alleviating the massive congestion in metropolitan Dakar and by reducing the unacceptable level of air pollution caused by over-aged and badly maintained vehicles; (b) it supports the objective of reducing poverty and improving the living conditions of the urban poor by reducing the number of traffic accidents involving pedestrians; (c) it supports one of the key pillars of the strategy relating to private sector development : under the previous project the institutional framework has been established for a viable urban transport system and the new operation will build on it in a systematic and timely manner; (d) it supports the building of necessary urban transport infrastructure; and (e) on the issue of the regional approach to development, another aspect of the CAS, the Project flows naturally from the work of the Sub-Saharan Africa Transport Policy Program (SSATP), that includes participation of 20 sub-Saharan African countries. Dakar serves as a pilot city for this partnership program.

2. Main sector issues and Government strategy:

2.A. An urban mobility in crisis

The urban transport sector in Dakar has been progressively facing a major crisis over the past 15 years, due to a combination of increasing urban population growth (4 percent a year on average, with 2.4 percent in Dakar and 8.5 percent in Pikine-Guédiawaye), massive daily pendulum commuter migration because of the geographical configuration of the Cap-Vert Peninsula, aging vehicles (especially public transport vehicles with an average age of 18 years), lack of traffic management measures, inappropriate regulation, institutional fragmentation, and the lack of intermodal coordination.

Dakar's population has grown from 18,000 in 1902 to 2.2 million in 1998 (accounting for 54 percent of the urban population and 24 percent Senegal's total population), and is expected to reach 3.2 million by the year 2010.

Those most affected by the mobility crisis are the urban poor; they live in suburban areas, travel long distances, and when affordable, use over-crowded minibuses that generate increasing air pollution and cause most of the traffic accidents in Dakar. Due to the lack of affordable and/or reliable transport services, 27 percent of the population walk long distances. A study carried out in September 1998 shows

4.3 million daily trips in the Dakar metropolitan area, of which 56 percent are motorized and 80 percent of these are by public transport. Hence, 2 million trips a day are made by public transport, and 94 percent of these trips are for commuting to or from work.

Dakar's public transport system, a potentially efficient mode of transport, is hindered by slow operating speeds and it generates high levels of vehicle-related accidents and air pollution, serious health threats to the urban population. A study completed in November 1998 estimates that the annual cost of externalities (traffic accidents, air pollution, traffic congestion, and noise) caused by urban transport amounts to FCFA 108 billion (about US\$180 million), or 4.6 percent of Senegal's GDP. The annual cost of delays caused by traffic congestion is estimated at about US\$70 million, representing 1 million hours lost each day.

This crisis affects the urban economy and impedes the social, environmental, and sustainable growth of the city. The poor are less able to afford the additional time, effort, and cost of transport than people with higher incomes, who have access to alternative means of transport, such as private cars.

2.B. Urban Population and Employment in Dakar

The Dakar metropolitan area consists of three major poles, Dakar City, Pikine-Guédiawaye, and Rufisque, which are aligned from the West coast to the East inland along the 34 kilometers of the Cap-Vert Peninsula. Of the 2.2 million people in the Dakar metro area, approximately 860,000 reside in Dakar City, with the remaining split among Pikine-Guédiawaye (1,060,000), Rufisque-Bargny (185,000), and rural areas (90,000).

The population growth rate within these three districts varies substantially, from the global 4 percent yearly rate in the Dakar metropolitan area, with the highest growth occurring in Pikine-Guédiawaye, 8.5 percent per year, more than three times as fast as the 2.4 percent growth rate in Dakar City. However, by the year 2000, Pikine's annual population growth rate will begin to taper off slightly while Rufisque's 6 percent population growth rate will continue to increase. The imbalance between population and job distribution is expected to continue and even grow in the future in the absence of remedial long-term measures. The imbalance of jobs and housing generates a massive daily pendulum commuter migration between Dakar City where the bulk of the jobs are located, and the two bedroom communities of Pikine-Guédiawaye and Rufisque.

The narrow Cap-Vert Peninsula, along which the migration occurs, is limited to two major east-west roads between Dakar City and the entrance to Pikine-Guédiawaye, one major east-west road east of Pikine-Guédiawaye, and one east-west railway line shared between freight and public passenger transportation from Dakar Port to Rufisque. The present capacity of the suburban railway system (the *Petit Train Bleu--PTB*) is very limited, so that commuter demand puts a serious strain on major roads.

The urban transport sector is a major provider of private sector employment (microenterprises). More than 30,000 persons derive their livelihood from the ownership, operation, and maintenance of the *Cars Rapides* through direct or indirect intervention (spare parts, mechanics, and maintenance). Public transport also plays a major role in the urban economy by facilitating access to places of employment, markets, schools, and social and medical services.

2.C. Roots of the crisis

Urban Roads and Infrastructure

With the exception of the railway system, which provides transport for both freight and passengers between Dakar's port and Rufisque (1 percent of the market share of urban transport trips), the remaining urban transport is accomplished almost exclusively along roadways.

The distribution of roads, however, is very unbalanced between districts. In the older parts of Dakar (Plateau, Grand Dakar, and Medina), the road density varies between 100 and 150 linear meters of road per hectare. In the newly settled areas, such as Pikine and Guédiawaye, the density drops to 40 linear meters per hectare. There are 15 important public transport terminals scattered throughout Dakar City and its suburbs, but only two are adequately equipped.

Aging of the public transport fleet

In Dakar's aging public transport fleet, 80 percent of the vehicles are more than 10 years old, and 50 percent are more than 15 years old. The age of the fleet combined with poor technical standards and driving habits are the major causes for the high traffic accident rate and air pollution levels in the metropolitan area.

One of the main reasons for the aging of the fleet is the difficulty for any owner/operator to renew vehicles due to the prevailing stringent financial environment. Indeed, there are several constraints in mobilizing the equity and debt financing necessary to bring new buses into Dakar.

For the minibus operators (*Cars Rapides* and the more comfortable white mini-vans *Ndiaga Ndiaye*) the constraints are:

- Limited access to credit that matches the economic life of the vehicles to be financed;
- High interest rates;
- Demand for collateral and the margins for borrowing/leasing; and
- Insufficient revenues to renew the fleet.

A study carried out in January 1998 revealed that current revenues from operations do not cover the depreciation of vehicles that would allow for the purchase of additional or new vehicles.

The constraints for the local financial institutions are:

- Smaller operators may not be financially sound or creditworthy;
- Previous history of major reimbursement defaults under a 1976 financing scheme; and
- Cumbersome judicial procedures for recourse to courts.

Roads and Traffic Management

Traffic engineering skills to improve traffic flows, reduce conflicts between road users, protect pedestrians and non-motorized transport and give priority to public transport are either lacking or insufficient. Most of the urban roads are not used to their full capacity due to the lack of traffic management, inadequate enforcement of traffic regulations, and encroachment by street vendors. Many roads lack sidewalks, many existing sidewalks are used for unauthorized vehicle stops and parking, and there are not enough footbridges for pedestrian crossings on major highways. In addition, lack of

coordination among utility agencies and the road maintenance agency results in repetitive and uncoordinated road repairs and disruption of drainage, which further reduces road carrying capacity and increases traffic congestion.

High accident rates

In 1995, 2,320 traffic accidents were reported in the Dakar metropolitan area, resulting in 379 deaths and 2,100 injuries. The traffic fatality rate of 47 per 10,000 motor vehicles is one of the worst in Sub-Saharan Africa, compared with 23 in Benin, 27 in Tanzania, and 28 in Cote d'Ivoire; while the rate is only 1.4 in Great Britain (see SSATP Working Paper 35, "Road Safety in Africa: Appraisal of Road Safety Initiatives in five African countries," February 1998). Even more alarming is the fact that the traffic fatality rate has increased by about 10 percent each year during the period 1990-95.

The high fatality rate is due to the combination of poor discipline of road users, the driving habits of *Cars Rapides*' operators, lack of perception of dangers by road users, use of road space by vehicles traveling at different speeds, lack of protection for pedestrians crossing roads, insufficient or no street lighting at night, and delay in providing first aid assistance to accident victims. It is the public transport vehicles (*Cars Rapides*) that are reported to have been involved in most of the accidents.

Air pollution generated by motorized traffic

Air pollution (together with traffic congestion and road accidents) is a major environmental issue that is to be addressed in the UMIP. A study was carried out in June-October 1998 to analyze the cost of externalities related to the urban transport system in the Dakar metropolitan area. Motorized traffic was identified as the cause of 33 percent of air pollution in the Dakar urban area.

A complementary assessment, completed in November 1998, further analyzed the impact of motorized traffic on human health and its role in urban air pollution. On December 17-18, 1998 a national seminar was held in Dakar to: (a) raise awareness of the Senegalese authorities about these issues; (b) identify the main causes of air pollution in Dakar and its impact on health; and (c) start the preparation of an Urban Air Quality Management Strategy.

Urban and transport planning issues

Strengthening of transportation planning, traffic database, traffic management, and economic and financial evaluation of new investments is needed to improve urban mobility conditions in Dakar. Hence, CETUD and, as when appropriate, local agencies will be equipped with demand and supply models to test different land use, air quality, and urban transport scenarios. Furthermore, an integrated land use, urban transport, and air quality strategy will be designed and revised periodically. The institutional component of the proposed UMIP includes provision for financing this type of model and supporting studies.

2.D. From Crisis to Reform: participatory approach and sound institutional reform

To find long-term solutions to the urban mobility crisis, the GOS embarked in 1993 on a comprehensive sector dialogue with the major stakeholders. This initiative was launched within the SSATP partnership and coordinated by the World Bank. Twenty African countries are members of the Urban Mobility (previously Urban Transport) component of this regional partnership. Within the SSATP, Dakar is considered a "Pilot City" (*Ville-Pilote*).

On September 25, 1996, the GOS signed an Urban Transport Policy Letter based on the consensus built during the national sector dialogue launched in 1993. To assist the GOS in the implementation of a comprehensive institutional reform, the World Bank approved a US\$6.6 million credit in June 1997 for a TA project, the Urban Transport Reform and Capacity Building Project (ID SN- 44 383), designed to support the establishment of a new institutional framework for all the major stakeholders in the sector, national ministries, local government, operators, and the CETUD.

Additional assistance was provided under the credit for: (a) privatization of the public transport company, SOTRAC; (b) road safety campaigns; (c) investments for a few bus terminals and bus stops (Daroukhane, Parcelles Assainies, Ilot Petersen, and Lat Dior); and (d) analysis of major road accidents ("points noirs") complemented by minor adjustments on some crossroads. Since the project was designed as a TA project, no major investments were planned.

2.E. The Government's Strategy

The strategy of the GOS is defined in its Urban Transport Policy Letter of September 1996. The objectives of this strategy are consistent with the Government's overall policy, as defined in the Ninth Development Plan for Economic and Social Development (1996-2001), which aims to:

- make the regulatory framework better suited to promote healthy competition and to attract increased investments;
- develop private enterprises and further the changes to promote autonomy; and
- improve the quality of public services and basic infrastructure.

Four areas in the urban transport sector were identified: (a) the institutional and legal framework; (b) financial framework; (c) restructuring of public transportation; and (d) development of human resources.

Institutional and legal framework. This reform aims to: (a) combine, under the aegis of a specialized institution, the preparation of a consistent road safety policy; (b) remedy the dispersal of authority and responsibilities among the various central and local institutions; and (c) improve coordination for the formulation of the urban transport sector policy through a sustained and coherent sector dialogue with the major stakeholders.

Financial framework. This reform aims to: (a) reorganize the sector to make it financially attractive; (b) ensure better distribution of the financing of transportation for the benefit of different direct and indirect beneficiaries; (c) identify the cost of public service constraints and have this cost borne by the party or parties concerned; and (d) putting the appropriate human, financial, and logistical resources in place with a view to the autonomous management of the system.

Restructuring of public transportation. This reform aims to: (a) redefine SOTRAC and *Cars Rapides'* routes with a view to ensuring intermodal complementarity together with upgraded suburban railway services; (b) renew the equipment of SOTRAC, the *Cars Rapides*, and the suburban railway; (c) upgrade suburban railway services and make them the backbone of the future urban/suburban transport system in Dakar; and (d) integrate the tariffs policy on the basis of the complementarity between modes.

On the investment side, the GOS has decided to adopt the leasing formula that would enable operators to find the necessary funding for procurement of transportation equipment through monthly payments. This leasing formula, based on concessionary credits, will allow repayment schedules that are

more attractive than longer term bank credit. Measures (*mesures d'accompagnement*) will be taken to mitigate the risks associated with the reimbursement.

Human resource development. This reform aims to: (a) assure training for urban transport service drivers; (b) develop the technical and financial capacity of the sector's professionals; (c) improve the information system for users of public transport services and pedestrians; and (d) increase the technical expertise of municipal staff on issues related to urban mobility.

3. Sector issues to be addressed by the project and strategic choices:

3.A. Private sector development

The role of the private sector will be significantly reinforced in Dakar's urban transport sector. Such a stronger role, expected to be created on a sound and sustainable basis, will be developed along four main areas: (a) provision of public transport services by microenterprises; (b) concessioning of suburban railway services to a private operator; (c) participation of local entrepreneurs in the civil works component of the project; and (d) management by the private sector of urban infrastructure, such as bus terminals, technical control centers for vehicles, and parking zones.

Financial support and capacity building for the small urban transport operators

Under the proposed scheme, the fleet of public transport vehicles to replace the existing fleet will consist of new or second-hand vehicles procured through international competitive bidding.

Under Phase 1 of the proposed APL, IDA financing would amount to US\$19 million, of which US\$18.5 million will be used to acquire about 300 new vehicles and rehabilitate approximately 600 second-hand vehicles. An amount of US\$0.5 million will be used for capacity building, management, and monitoring and control of the implementation of the leasing scheme. The private operators will provide 25 percent of the financing for the vehicles.

If the results of the pilot project are satisfactory, and given the strong expression of interest from other donors in the proposed scheme, it is likely that several of them will support the scheme, thereby increasing the size of the fleet which could be renewed under Phase 1 of the APL. The GOS has been informed of this interest by the other donors, which will provide an additional incentive to the Government to satisfy its contractual obligations in the implementation of the scheme.

Under the proposed scheme, a leasing cooperative, fully owned by private operators of *Cars Rapides*, will be set up. To be eligible to participate in the scheme, membership in the cooperative will be mandatory for a private operator. The leasing cooperative will be managed by a professional private manager who will be selected through competitive bidding. The contract between the leasing cooperative and the professional private manager will be consistent with the Project Implementation Manual and which shall specify, *inter alia*, the operational mechanism of the leasing scheme to be followed by the private manager, under terms and conditions satisfactory to IDA. Each lease with a private operator shall have a maturity not exceeding six years, including a grace period of up to one year, and secured by a lien on the fleet of vehicles being financed. IDA will finance the loan under the proposed Project.

A mutual guarantee fund will be set up to top up any shortfall on payment by any of the participating G.I.E.s. A monthly contribution, equal to 3 percent of the monthly lease payments, will be added to the monthly lease payments and paid to the fund. The initial endowment of the mutual guarantee fund, equal to three monthly lease payments, will be financed under the proposed UMIP and the leasing cooperative will have the right to draw from the guarantee fund to top up any shortfalls in the monthly lease payments.

In November 1999, representatives of the four major *Cars Rapides* associations (owners, drivers) signed a commitment letter endorsing the proposed leasing scheme (see the Project files), including the conditions and related measures (*mesures d'accompagnement*).

The proposed Project will help to improve for the *Cars Rapides* operators/owners the conditions of operation by reducing traffic congestion and allowing an increase in the average speed of commercial vehicles. In addition, as the project supports the mechanism for stricter enforcement of traffic safety and pollution control regulations, it is expected that the number of competing operators will decrease slightly and allow vehicles which pass technical, safety, and pollution standards to operate with a better rate of capacity utilization. *Cars Rapides'* owners will be encouraged to organize themselves into economic associations (such as the G.I.E.s) in order to obtain priority access to long-term financing facilities to be provided under the proposed Project. Such increased level of professional organization among *Cars Rapides* operators will facilitate coordination of itineraries and operation frequencies, which will in turn increase vehicle revenues and improve the quality of service for passengers.

Measures for pedestrian and traffic safety along the suburban railway line and support for concessioning of suburban railway services to the private sector

The Dakar-Rufisque railway route, one of the main suburban access routes to downtown Dakar, is operated by the *Société Nationale de Chemins de Fer du Sénégal* (SNCS). After a sharp increase during 1988 to 1991, traffic declined during recent years due to the poor condition of the rolling stock, lack of equipment, dispatching conflicts between long-distance and suburban traffic, and poor quality of service (including heavy pollution by phosphate rock dust due to inadequate control of railway operations by SNCS). Operational deficits incurred by the SNCS increased, while no adequate financial compensation was in place. On December 30, 1999 the GOS issued a Policy Letter with its decision to develop and upgrade suburban railway services and concession them to a private operator, to be selected through a competitive bidding process.

Within this component, specific attention will be paid to the safe movement of pedestrians and traffic (motorized vehicles as well as railway traffic) along the suburban railway line. Safety measures and the investments will be related, *inter alia*, to fencing of the right-of-way along the railway line, improvement of railroad level crossings, and rehabilitation of the signaling. In light of the non-revenue producing nature of these types of investments involved in this component, the investments will be financed through a subsidy from the GOS to SNCS.

The Project will provide support for implementation of the concessioning process through consulting services, and safety of the railway infrastructure used for suburban services will be improved, while the concessionaire will directly finance or co-finance rolling stock investments as well as other improvements in infrastructure (signaling, telecommunications, and stations).

Private construction and management of some basic urban infrastructure

The civil works component of the Project will be carried out with labor-intensive methods and will reinforce the local construction industry through participation of AGETIP or any other qualified agency. The private sector will be asked to manage, on a concession basis, urban infrastructure such as bus terminals, technical control centers, and parking, in accordance with technical and financial specifications.

3.B. Traffic management schemes

The range of traffic management methods to be included in the Project represents a wide spectrum

of approaches, such as management of demand (public education and parking control) and supply (bus priority lanes and priority traffic signals) as well as those that are technical (channelization) and regulatory in nature (traffic signal controls, signs and marking, and street parking controls). Moreover, road users, operators, and communities will be involved in designing and assessing the relative effectiveness of these measures.

Targeted actions to engage users and operators to adopt a modified road-user culture will be necessary and will complement technical measures for traffic management testing and development.

3.C. Integrated environmental strategy

Cars, trucks, motorcycles, scooters, and buses emit significant quantities of carbon monoxide; furthermore, leaded gasoline causes 90 percent of airborne lead pollution. Growth in urban transport has led to increases in these emissions, with negative effects on human health, productivity, and quality of life for Dakar's urban population. Other concerns about vehicle emissions include global warming. Addressing these issues will have both economic and health benefits.

All the Project's major components will reinforce an integrated environmental strategy for the sustainable development of urban mobility in Dakar. Appropriate environmental mitigation measures associated with the civil works component will be included, as recommended in the environmental analysis. The Project includes the preparation of an Urban Air Quality Management Strategy that will specifically address environmental issues. It will aim to reduce the level of air pollution generated by motorized traffic. The strategy will incorporate the following elements:

Technical measures related to vehicles and fuel: The Project will develop and implement technical measures to reduce air pollution and other environmental impacts of road transport, including an emission control program that will cover fuel quality, engine efficiency, vehicle maintenance, traffic operations, and emission controls.

Transport demand management: The advanced age of the public transport fleet combined with poor technical standards and driving habits are the major reasons for the high rates of traffic accidents and air pollution in the city. Public transport vehicles will be renewed gradually. The Project will focus on the most polluting and heavily used vehicles, such as *Cars Rapides*.

Infrastructure and public transport improvements: A comprehensive and preventive package of long-term measures will be adopted, including measures for improved strategic land-use planning, greater reliance on a more effective multimodal transport system promoting environmentally friendly public transport, awareness campaigns and training, and preparation of a long-term Mobility Plan (*Plan de Déplacements Urbains*) that will integrate transport and housing.

The measures will be selected on the basis of their enforceability and cost-effectiveness. Lessons will be drawn from the World Bank's experience in other developing regions (mainly Asia) as well as the conclusions and recommendations from a seminar on Urban Transport and Air Quality, held in Dakar (December 17-18, 1998) as part of the *Clean Air Initiative in Sub-Saharan African Cities*, launched in 1998 by the SSATP and the World Bank Institute.

The Urban Air Quality Management Strategy will also include the gradual introduction of unleaded gasoline and associated fiscal incentives. Recommended measures could include differentiated gasoline taxation in favor of unleaded gasoline, public education to increase awareness of the health benefits of

lead-free gasoline, and other incentive programs to facilitate the cost-effective phase-out of leaded gasoline. Savings in terms of better health, improved engine maintenance, and greater fuel efficiency would be expected.

The UMIP will select and prioritize investments and targeted training that would have a direct impact on improvements in the public transport system, and to a lesser extent, on the use of private cars. In addition, institutional, technical, and budgetary arrangements will be made to implement and monitor air quality associated with urban transport.

4. Program description and performance triggers for subsequent loans:

Please refer to section 1 above for Program description and phasing.

C. Program and Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

Component	Sector	Indicative Costs (US\$M)	% of Total	Bank-financing (US\$M)	% of Bank-financing
1. Implementation of a Road Rehabilitation Program and road safety and traffic management measures	Urban Transport	42.37	41.1	23.72	33.9
2. Measures for pedestrian and traffic safety along the suburban railway line	Railways	21.14	20.5	20.11	28.7
3. Technical and financial support for the development of a leasing scheme	Urban Transport	25.20	24.5	19.06	27.2
4. Urban Air Quality Management Strategy	Urban Environment	9.04	8.8	2.22	3.2
5. Capacity building and institutional strengthening	Institutional Development	4.70	4.6	4.30	6.1
6. Refinancing of PPF		0.55	0.5	0.55	0.8
Total Project Costs		103.00	100.0	69.96	100.0
Total Financing Required		103.00	100.0	69.96	100.0

The *Agence Française de Développement* (AFD) and the Nordic Development Fund (NDF) have expressed interest in co-financing for this Project. The AFD would contribute US\$17.3 million which would be devoted to the first component for: (i) the rehabilitation and construction of urban roads; (ii) the construction of bus stations and terminals; and (iii) the construction of some major cross-roads. The NDF has indicated interest in financing a portion of the Urban Air Quality Management component, mainly through the construction of three technical control centers for vehicle inspections and the Urban Air Laboratory, together with training and capacity building. The total NDF contribution would amount to amounts to US\$7.6 million. As for the leasing scheme is concerned, 25 percent of the acquisition price of vehicles will be financed by the private operators through the deposits made for the corresponding down

payment (25 percent of the vehicle cost).

2. Key policy and institutional reforms supported by the project:

A number of key policy issues will be addressed in order to improve the contribution of the urban transport sector to the urban economy.

Institutional issues: The CETUD will be strengthened in its regulatory, managerial, and financial capacity.

Environmental issues: The reduction of the environmental impacts of the urban congestion will be effected through: (a) the allocation of responsibilities across government levels for enforcement and definition of tougher standards; (b) improvement of traffic management and control; (c) strengthening of traffic safety education and the enforcement of traffic regulation. The increased use of rail-based transport will reduce air and noise pollution in the Project area and lead to fewer accidents and less traffic congestion. Air pollution is by its nature a cross-sectoral issue, arising from the transport, energy, industry, commercial, and domestic sectors. The Project will support closer coordination between major agencies and the stakeholders responsible for generating air pollution.

Public transport priority scheme: Bus operators are mostly unable to operate smoothly on city roads due to inadequate or non-existent traffic management measures. The operation of both slow- and fast-moving traffic sharing the same right-of-way imposes delays, reduces the number of possible trips, and increases pollution and operating costs. The Project will implement a comprehensive traffic management action plan to mitigate these problems.

Transport planning issues: Transport planning, complemented by accurate traffic data and traffic management, will be coordinated by CETUD. An integrated land use and air quality strategy will also be designed and implemented.

3. Benefits and target population:

The proposed Project is a poverty-focused intervention, aimed at improving the safe mobility of those most affected by the persistent urban transport crisis in Dakar, the urban poor.

The direct economic benefits of the Project would be to: (a) reduce vehicle operating costs and travel time through mitigating traffic congestion, delays, and air pollution; and (b) improve pedestrian safety in the Dakar metropolitan area. Substantial benefits will be realized by existing buses and minibuses through a better operating environment which would enable them to travel at a faster speed and improve cost recovery.

By achieving more effective management of road assets, including better utilization of existing road capacity, the Project will also improve the value-for-money for public spending on roads.

In addition, the introduction of new public transport vehicles combined with the upgrading of suburban railway services, resulting in increased capacity and better quality of service, would greatly improve traffic flow, extend accessibility of public transport services in remote areas, generate/maintain employment opportunities on a sustainable basis, and reduce the level of air pollution generated by motorized traffic. The urban productivity in the Dakar metropolitan area and the quality of life would be expected to improve.

4. Institutional and implementation arrangements:

APL Implementation period: FY 2001-2007

APL Proposed Project Phase 1: FY 2001-2004

APL Phase 2: FY 2005-2007

The Ministry of Equipment and Transport (MET) will be the supervisory ministry. The CETUD will act as the implementing agency, under the technical guidance of the MET and the financial tutelage of the Ministry of Finance and Plan (MFP). SNCS will be the implementing agency for the measures to improve pedestrian and traffic safety along the suburban railway line (Component 2). A Project Agreement will be signed between IDA and the "Leasing Cooperative" (*Association de Financement*) for implementation of the component related to the leasing scheme.

The CETUD is composed of two main bodies: (a) the *Assemblée Plénière*, which comprises the three major actors in the sector: ministries, local government, and the transport industry operators; and (b) the Permanent Secretariat, acting as the technical and regulatory body. The President of CETUD is appointed by the President of the Republic, after a vote of the *Assemblée Plénière*. The CETUD's Permanent Secretariat will run along private sector management lines, subject to budgetary checks, controls, and audit requirements as prescribed by law or under the IDA Credit Agreement.

The Project has set forth benchmarks and performance indicators (Annex 11) to evaluate progress on individual components. The figures related to these indicators were discussed during appraisal and agreed upon during the technical negotiations. They will be reviewed periodically to assess achievement against performance standards and the implementation schedule. After two years a mid-term review will be conducted jointly by IDA and the GOS to assess overall progress and project implementation performance. The CETUD will also coordinate action plans with ongoing operations directly or indirectly related to transport, such as the CELCO (Transport II Project) and with the *Agence de Développement Municipal* (ADM) for the Urban Development and Decentralization Program.

The civil works component would be carried out by AGETIP or another qualified agency (if it is more effective), under an agreement with the CETUD. The Project will be implemented according to a Project Implementation Manual agreed upon at the time of credit negotiations and to be finalized by credit effectiveness.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

The following alternatives were considered by the Project team and discussed with the GOS. Reasons for rejecting some alternatives are explained below.

1.A. Urban Roads and Infrastructure

Simply increasing road capacity by building new roads only was not seen as the solution. Indeed, experience elsewhere (including in the developed and developing countries) confirms that new road capacity quickly succumbs to increased motorized traffic unless measures are taken to manage demand. Additional road capacity attracts additional vehicles, which in turn, increase traffic congestion, air pollution, and road accidents.

Therefore, the construction/rehabilitation of urban roads will be considered only if and when required for special technical reasons, such as considerations of road safety (including pedestrians), efficient traffic flow, and priority for public transport.

1.B. Leasing Scheme

The following alternatives were considered:

- (a) Leave the situation as it is and take no action. This alternative would present high social and environment costs in terms of accidents, time lost in traffic congestion, and air pollution. (See economic analysis of the leasing component.)
- (b) Leasing company to be wholly-owned by the State. In such a case, a guaranteed deposit of 25 percent of the purchase price for vehicles would be required from private operators. However, if the leasing company were state-owned, then the moral hazard for the payment of lease installments would increase significantly. Lowering this risk is one of the key success factors in any leasing or lending scheme.
- (c) Impose the rule of strict adherence to technical norms, but leave lease financing (or other credit alternatives) to the private financial market. Based on feedback from the local banks and leasing companies, the private financial market is unwilling to provide any credit or leasing facility for private operators. The private banks and leasing companies view the profession of *Cars Rapides'* operators as fragmented, unprofessional, and lacking the knowledge of how to manage a financial scheme. Moreover, the experience of imposing regulatory measures on *Cars Rapides'* operators has been disappointing, in the absence of other supporting measures. The threat of sanctions is not enough of a disincentive for the private operators to follow technical, security, and pollution norms.
- (d) Arrange an operating lease rather than a financial lease. In an operating lease, the private operators rent vehicles for a short-term period, varying from one day to six months or even a year, and the responsibility for vehicle maintenance rests with the rental or leasing company. Under an operating lease, the private operator would not have a sense of partial ownership of the vehicle which would be the case under a financial lease. Furthermore, the financial structure of the leasing company providing operating leases would be difficult, since private operators would, by definition, have the right not to renew the lease at the end of any leasing period. In case of non-renewal, the leasing company would have to find a new operator willing to lease the vehicle. If a new operator could not be found, the leasing company would have to assume debt service payments on the credit subscribed to finance the vehicle, which would be financially unsustainable for more than a few months, or would have to sell the vehicle, possibly at a distress sale price.

1.C Urban Air Quality Management Strategy

The well-attended, December 17-18, 1998 seminar on Urban Transport and Air Quality, in Dakar, demonstrated significant awareness among the Senegalese of the substantial level of air pollution generated by the transport sector in the Dakar metropolitan area and its impact on human health. The GOS has requested Bank assistance for designing and implementing its Urban Air Quality Management Strategy, the principle for which was agreed upon during the seminar.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed Transport	Urban Transport Reform and Capacity Building (TA) Project	S	S
	Transport Sector Adjustment and Investment Program (completed)	S	S
Urban/Water	Second Public Works & Employment Project (completed)	S	S
	Community Nutrition Project	S	S
	Municipal and Housing Development Project (completed)	S	S
Energy	Urban Development and Decentralization Program	S	S
	Water Sector Project	S	S
Private Sector	Energy Sector Adjustment Project	S	S
	Private Sector Capacity-Building Project	S	S
Other development agencies			

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in the project design:

The ongoing TA Project has helped the GOS to design and implement the initial steps of a comprehensive urban transport reform. The establishment and operation of the CETUD is a key development in the long-term improvement of this sector. The main lesson that is emerging is that sound institutional reform is a prerequisite for any major investments in the sector. Implementation of the TA Project was slow until mid-1999. The reasons included a lack of familiarity with Bank procedures and the need to obtain conclusions of major studies for the selection, design, and execution of civil works. These problems will be mitigated in the proposed operation by measures such as strengthening of CETUD's managerial and financial capacity and improved monitoring tools and procedures.

The Project will also integrate lessons learned from the SSATP: (a) that urban transport is a complex and interactive process; (b) simultaneous action is needed on many fronts--policies, institutions, planning, operation and management, infrastructure construction, and other investments. It does not help to solve one problem if others are ignored. The proposed operation will, therefore, follow the comprehensive approach that was defined in the GOS Urban Transport Policy Letter. (c) Finally, lessons and experiences from urban transport projects in other parts of the world demonstrate that for urban transport to become sustainable, priority should be given to moving people and goods, rather than accommodating more

vehicles.

Experience with transport as well as urban projects in Senegal holds the following major lessons: (i) stakeholders' participation is essential to ensure ownership of the project; (ii) private sector development has to be secured on a sustainable and long-term basis; and (iii) sector investments need to rest on regulatory changes that provide incentives and guarantees on issues, such as reimbursement and political risks.

4. Indications of borrower commitment and ownership:

The ownership of the Project by the stakeholders was sought during preparation through consultation, organized by CETUD, with the three major stakeholder groups: the ministries, local government, and the transport industry. Operators and representatives of trade unions, public transport users, and the education community were involved in issues such as road safety, sector financing, traffic management, and air pollution. The academic community (University of Dakar) was associated with the identification of the Urban Air Quality Management Strategy. Seminars and workshops have been held in Dakar over the past 18 months with considerable participation of sector representatives.

5. Value added of Bank support in this project:

The value added by the Bank in the UMIP has to be viewed within the context of: (a) the regional partnership designed to assist African authorities in designing and implementing policy reforms (the SSATP, coordinated by the World Bank); and (b) the Bank's role in Senegal's urban transport sector during the past years.

As a leading supporter of the transport sector in Senegal, the Bank has played a key leadership and coordinating role with other donors to ensure policy reform, and it has provided critical advice and helped create a favorable climate for capacity building, encouraging the GOS to assume a greater role in all aspects of project activities. Continued Bank involvement in the sector would ensure coordination between reform in the transport sector and the overall economic program.

As the local leasing market has been unable to provide any significant support for financing the existing fleet of *Cars Rapides*, the Bank is well-placed to promote leasing as a viable financing instrument in the context of the professionalization of *Cars Rapides'* owners.

Bank value added in project implementation is expected in the areas of traffic management, pollution control, and private sector development. The Bank has extensive experience in railway concessioning, including suburban railway services, which will be valuable for the design and implementation of the concessioning scheme. Finally, the SSATP umbrella will provide regional inputs on issues such as road safety, operation of urban transport microenterprises, non-motorized transport, and capacity building.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

- Cost benefit NPV=US\$79.37 million; ERR = % (see Annex 4)
- Cost effectiveness
- Other (specify)

The economic analysis examined the impact of the proposed investments by performing cost-benefit calculations of "with and without" scenarios. They include separate computations for the three main Project components: (i) road rehabilitation; (ii) establishment of a leasing scheme for the renewal of the local public transport fleet and buses; and (iii) basic security measures to ensure the safety of pedestrians and other traffic along the suburban railway line.

The ERR figures were calculated on the basis of the benefits described below (for a comprehensive analysis, see Annex 4). The analyses for the pedestrian and traffic safety along the suburban railway line took account of: (i) cost savings as a consequence of improvements in the transport system; and (ii) health improvements as a result of reduced air pollution. The leasing scheme analysis incorporated: (i) the value of improved passenger safety as a consequence of safer public transport vehicles; and (ii) the actual payments of the lessees to the established leasing fund. Measuring and quantifying benefits external to the sector were not fully captured in the cost-benefit calculation, since such benefits are not expressed in the demand curves. These benefits could, however, be taken into account and added to the direct benefits mentioned above.

The proposed Project will benefit the population in greater Dakar by reducing the negative externalities associated with the large expansion of the city in recent years. It will: (a) improve the safety of passengers and pedestrians using the transport network; (b) reduce the number of hours lost on traveling to and from the center of the city; (c) reduce vehicle operating costs as a consequence of greater speed and reduced traveling time; (d) extend public transport services to currently unserved areas; (e) reduce health costs associated with air pollution related diseases; (f) renovate some of the local transport vehicles; and (g) improve the suburban rail system's quality of service and increase the number of passengers.

A reduction of 10 percent in Dakar's traffic congestion, as a consequence of the Project, could save US\$79.37 million each year, and a further reduction up to 20 percent in traffic congestion could save US\$158.75 million each year.

2. Financial (see Annex 5):

NPV=US\$ million; FRR = % (see Annex 4)

Fiscal Impact:

The project will not pose a significant fiscal burden on the country during its life time or after project completion. It will indeed ensure that the cost of services in the urban transport sector remains affordable and that appropriate dispositions be taken so as not to discriminate against poor passengers in the delivery of public transport. Affordability of services and consumer's willingness to pay will be monitored, aiming to make the under-served groups the principal beneficiaries of this project.

3. Technical:

Most of the Project components focus on simple, low-technology measures, such as traffic signals, marking bus lanes, road safety measures, including construction of sidewalks, footbridges, and bus stops, the laying of a third rail for the suburban railway line, as well as grade crossings and fencing of the right-of-way along the line. The design and implementation of the Urban Air Quality Management Strategy would require specific expertise, but development of local applications of internationally well-known solutions would not require more than general experimentation. The SSATP umbrella will help

reinforce regional expertise in the field of air pollution, as part of its program of capacity building.

4. Institutional:

a. Executing agencies:

The CETUD will act as the implementing agency, under the technical tutelage of the Ministry of Equipment and Transport and the financial tutelage of the Ministry of Economy and Finance. The civil works component will be carried out by AGETIP or another qualified agency, under an agreement with CETUD. The SNCS will implement the component related to pedestrian and traffic safety along the suburban railway line. The Leasing Cooperative will implement the financial part of the component for the leasing scheme under a Project Agreement to be signed with IDA.

b. Project management:

Institutional coordination. Over the last 24 months, the CETUD has demonstrated an increasing institutional capacity for designing and monitoring urban transport initiatives and activities. Its relationship with key actors, such as municipalities, ministries, and operators, rests on a sound professional basis. Its expertise is expected to be strengthened further under the UMIP.

Suburban railway line. The design of legal instruments for the concessioning, such as the concession agreement, public-service obligation contract, and trackage right of use with SNCS, will require specific expertise. The Bank's experience with privatization and concessioning of railway companies will help in the design and implementation of the concessioning scheme. In addition, institutional and technical support for the GOS is included in the Project.

5. Social:

Project benefits--safe travel and travel time savings--will enhance the well-being of Dakar's population. The accessibility of low-income people to employment centers will be greatly improved. Construction of sidewalks, pedestrian facilities, and footbridges would make for a safer travel environment for low-income groups. The increased efficiency of the urban transport system will be particularly beneficial to women who are important users of public transport for access to markets as well as health and social centers. No negative social impacts are expected from the proposed Project.

6. Environmental assessment:

Environment Category: B (Partial Assessment)

The Project's overall aim is to have a positive impact on the urban environment. The Project will focus on easing traffic congestion through various interventions. Some of these relate to the environment and they include : promotion of the use of public transport (*Cars Rapides* and the urban/suburban railway line), provision of pedestrian facilities, and strengthening of institutions. Since the planned civil works are either minor or within the existing rights-of-way of the suburban railway line, involuntary resettlement will not occur.

An environmental assessment (EA) for the Project was prepared. A provisional report was submitted to the Bank on February 28, 2000 and the final version is expected by early May 2000. The analysis of the environmental and social impacts of Project activities was made in consultation with the relevant stakeholders through interviews and surveys. Civil works related to the railway component include relocation of some markets. The EA benefited from extensive consultations with potentially affected populations, municipal authorities, and other relevant stakeholders to discuss proposed activities and mitigation measures.

Implementation of the overall environmental management plan (EMP) will be supervised by CETUD. The proposed EMP provides for the integration of mitigation measures into the project design and implementation where feasible. Several ministries and relevant authorities and organizations will be involved in implementing and monitoring the mitigation measures. Environmental contract clauses for civil works have been proposed and will be integrated into the contracts. The EMP includes a monitoring plan with the appropriate institutional arrangements. This can contribute to an analysis of the environmental impact of the Project.

7. Participatory Approach (key stakeholders, how involved, and what they have influenced or may influence; if participatory approach not used, describe why not applicable):

a. Primary beneficiaries and other affected groups:

Preparation of the UMIP as well as the design and implementation of the ongoing TA Project adopted a fundamentally participatory approach. Continuing consultations, organized by CETUD over the past 24 months, have permitted a fruitful sector dialogue involving municipalities, ministries, transport operators, and transport associations. An indication of this continuing sector dialogue (institutionalized within the CETUD General Assembly) was the signing, in October 1999, of a Letter of Agreement by major representatives of the *Cars Rapides* on the leasing scheme proposed in the Project.

b. Other key stakeholders:

During project preparation, key government agencies, active donors (the Swedish International Development Agency, NDF, and AFD), and academic institutions, such as the University of Dakar, were consulted at various stages of project design. Consultation with local stakeholders will remain an integral element of project implementation and monitoring.

F. Sustainability and Risks

1. Sustainability:

Leasing Scheme: Even with the strong need to renew and rehabilitate the *Cars Rapides* fleet, no supply response has been forthcoming from the market so far because of the perceived high risk of any credit or leasing scheme by the private banking and leasing profession. This risk has been recognized up-front in the proposed Project. Accordingly, the preparation of this component focused on devising a series of measures aimed at mitigating the risk of payment or technical default under the scheme.

(a) **Phasing of the pilot project:** Phase 1 of the proposed APL will provide support to the development of the leasing scheme through a pilot project. The scope of this component in this phase is deliberately limited and the planned investment kept to US\$25.20 million (including US\$0.5 million to strengthen the managerial and financial capacity of *Cars Rapides*' operators). It is only under Phase 2, based on the progress achieved and lessons learned during Phase 1 and the 25 percent down payment by the operators, that most of the identified needs for the renewal and rehabilitation of old public transport vehicles would be met.

(b) **Private operators to be certified eligible for the scheme:** Only certified private operators will be eligible for access to the proposed financing facility. To be certified as professionally proficient, a private operator will have to follow an introductory training program on the basic principles of fleet management and undertake to hire only drivers who have undertaken professional training in driving public transport

vehicles and a technical training program.

(c) **Private operators must belong to a professional partnership (G.I.E.):** Eligible private operators must belong to one of the G.I.E.s which will be constituted as professional partnerships. The G.I.E.s, and not the individual private operators, will enter into leasing agreements with the leasing cooperative through the private manager. Any G.I.E. that defaults under a leasing agreement it has entered into, will become ineligible for any new leasing agreement until the defaults are paid.

(d) **Vehicles to be insured with accredited insurance companies:** The vehicles to be financed will be covered under an insurance policy for civil responsibility, theft, fire, and third-party collision damage, subscribed by a G.I.E. with one of the insurance companies which will be accredited by the Ministry of Finance and satisfactory to IDA.

(e) **Operators eligible to be members of the leasing cooperative:** In order to be eligible for the leasing scheme, the private operators will have to be members of the leasing cooperative. They will contribute an amount equal to 25 percent of the amount of their participation in the leasing scheme to the cooperative's capital. Accordingly, private operators will have a significant pecuniary interest in the success of the scheme and a strong sense of ownership in it. The mandate for management of the leasing cooperative will be given to a private professional manager (such as a bank, financial institution, or accounting firm), selected through competitive bidding. The manager will be charged with the administration and financial management of the leasing cooperative under a management contract.

(f) **Mutual guarantee fund:** A monthly contribution, equal to 3 percent of the monthly lease payment, will be added to each monthly lease payment paid by the private operators and placed in a mutual guarantee fund, managed by a local bank or financial institution satisfactory to IDA. The initial endowment of the mutual guarantee fund, to be equal to three monthly lease payments, will be financed under the proposed Project. The leasing cooperative will have the right to draw on the guarantee fund to make up for any shortfall in the monthly lease payments of a G.I.E.

(g) **Semi-annual technical check:** The public transport vehicles to be financed will be subject to semi-annual technical checks that will be performed by the technical control center to be set up and financed under the proposed Project. The concession for the operation of the control center will be granted to a private, specialized professional operator selected through competitive bidding. Detailed technical specifications and performance indicators will be included in the concession agreement.

(h) **Affordability of the scheme:** One of the key factors affecting the sustainability of the scheme is the affordability of the lease payments relative to the monthly net operating revenues generated by the leased vehicles. An analysis of *Cars Rapides'* operating costs (other than financing) shows that, under the new mode of operations in the proposed reform, the net operating revenue needed to cover the financing costs and to remunerate *Cars Rapides'* owners is approximately FCFA 550,000 per month. Based on this estimate, the lease payment coverage ratio would range from 1.39 for the leasing of a new vehicle costing FCFA 32 million to 2.13 for a rehabilitated vehicle costing FCFA 14 million, as shown in the table below:

(All amounts in FCFA)

Vehicle	New Vehicle (FCFA 32 million)	New Vehicle (FCFA 22 million)	Rehabilitated Vehicle (FCFA 14 million)
Net operating revenues	550,000	550,000	550,000
Monthly lease payment	395,000	285,000	258,000
Lease payment coverage ratio	1.39	1.93	2.13

2. Critical Risks (reflecting assumptions in the fourth column of Annex 1):

Risk	Risk Rating	Risk Minimization Measure
From Outputs to Objective		
Local budget for maintenance of the civil works (such as roads and terminals) not committed	M	Yearly budget allocation identified by the GOS Due diligence clause and credit covenants
Inadequate coordination among different line agencies, weak project management capacities	M	Coordination between CETUD and other agencies reinforced
Old Cars Rapides are not withdrawn from circulation	M	The GOS will undertake the appropriate measures. Rate of withdrawal will be a performance indicator
Non-compliance with maintenance policy by Cars Rapides' operators and drivers	H	Semi-annual technical control of the vehicles by independent contractor; private operators and drivers to be suspended from the scheme in case of non-compliance
Ineffective law enforcement	H	Strong ownership of the scheme and high commitment by the GOS
Excessive payment defaults by private operators and G.I.E.s	M	Phasing of the scheme with performance indicators to prevent further disbursements; strong commitment to the scheme by private operators' associations; individual private operator is eligible for the scheme only through a G.I.E.; leasing is provided by leasing cooperative with 25% of financing contributed by the participating operators
Failure to implement the concessioning of suburban railway services	S	Disbursement of the component related to the upgrading of suburban railway infrastructure conditioned on satisfactory progress in implementation of the concessioning scheme
From Components to Outputs		
Preparation and sequencing of civil works components not effective	M	CETUD coordination with other agencies involved (municipalities, Ministry of Equipment)
Difficult traffic diversion management plans during implementation of civil works	S	Comprehensive preparation, involving all concerned agencies, sequencing of civil works, and preparation in advance of traffic diversion
Excessive acquisition and rehabilitation costs of the Cars Rapides	N	International competitive bidding: large supply of these types of public transport vehicles
Withdrawal from the scheme by Cars Rapides' operator associations	N	Formal commitment from all the main operators' associations obtained
Unsuccessful bidding for the management of the leasing cooperative	N	Low risk attached to this function; required expertise is available in the local banking and financial sector
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

3. Possible Controversial Aspects:

N.A.

G. Main Loan Conditions

1. Effectiveness Condition

The following **credit effectiveness** conditions were agreed upon with the GOS, "the Borrower" :

- * The Subsidiary Agreement between the Borrower and SNCS has been executed on behalf of the Borrower and SNCS;
- * The *Association de Financement* (AF) has been established in accordance with the laws of the Borrower and its statutes have been adopted;
- * The Subsidiary Financing Agreement has been executed on behalf of the Borrower and AF;
- * The Borrower has established a financial accounting and procurement management system acceptable to IDA;
- * The Borrower has appointed the auditors with terms of reference and qualifications acceptable to IDA;
- * The Borrower has adopted the Project Implementation Manual, in form and substance acceptable to IDA;
- * The Borrower has adopted the Environmental Mitigation Plan, satisfactory to IDA;

2. Other [classify according to covenant types used in the Legal Agreements.]

Disbursement condition:

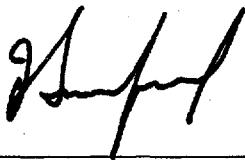
Suburban Railway Line: With the exception of the investments related to safety along the suburban railway line, the disbursement of this component will be subject to satisfactory progress in the process of concessioning the suburban railway services to the private sector (release of the Request For Technical Proposals for the concessioning).

H. Readiness for Implementation

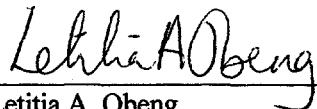
- 1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
- 1. b) Not applicable.
- 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
- 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
- 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

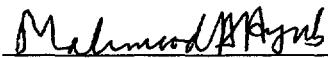
- 1. This project complies with all applicable Bank policies.
- 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.



Patrick Bultynck
Team Leader



Letitia A. Obeng
Sector Manager/Director



Mahmood A. Ayub
Country Manager/Director

Annex 1: Project Design Summary
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
<p>Sector-related CAS Goal: Support policies and investments that will encourage economic growth and social development</p> <p>Contribution of the Project to CAS objectives :</p> <p>1/ Contribution to environmentally sustainable growth by reducing the burden of traffic congestion and air pollution on GDP</p> <p>2/ Poverty reduction and improvement in living conditions of the urban poor</p> <p>3/ Private sector development</p>	<p>Sector Indicators: Progressive increase in infrastructure system's capacity and urban productivity above baseline levels</p> <p>Reduced infrastructure bottlenecks</p> <p>Substantial reduction in the costs of externalities generated by the urban transport sector on urban productivity (estimated in November 1998 at 4.7% of GDP)</p>	<p>Sector/ country reports: Bank Reports (Economic and Sector Work)</p> <p>Urban Mobility Improvement Project Supervision Missions (policy advice and project funding)</p> <p>Mid-term Review</p>	<p>(from Goal to Bank Mission)</p> <p><i>Risks :</i></p> <p>1/ Complementary measures are not taken in other sectors (e.g., finance, efficiency of markets) to raise living standards of the urban poor.</p> <p>2/ Macroeconomic stability</p> <p><i>Assumptions :</i></p> <p>1/ Inappropriate design of road infrastructure in urban areas hampers safe and rapid flow of traffic</p> <p>2/ Sustainable economic growth relies on private sector growth along with social equity (distribution)</p> <p>3/ Improvements in road capacity and efficiency will mainly benefit the operation of public transport services</p>

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions (from Purpose to Goal)
Program Purpose: Efficiency, reliability, quality, and safety of urban mobility improved in the metropolitan area of Dakar	End-of-Program Indicators: (December 2007) * Urban road network and urban transport infrastructure (sidewalks, crossroads, and bus stations and stops) in Dakar rehabilitated, maintained, and redesigned to promote public transport and assure pedestrian safety	Program reports: Project Completion Report	
End of Phase I : Rehabilitation of most of the urban road network, partial renewal/rehabilitation of the public transport fleet, portion of a comprehensive road safety and traffic management scheme designed and implemented, basic measures and investments carried out to improve pedestrian and traffic safety along the suburban railway line, the Urban Air Quality Management Strategy designed, approved, and implemented, and local capacity and sector efficiency reinforced	* Suburban railway line rehabilitated and managed by a private operator through a concessioning mechanism * Improved contribution of the urban transport sector to urban productivity through the reduction of externalities generated (air pollution, traffic congestion, road accidents)		
Triggers (by component) for moving to Phase 2			
Rehabilitation of urban road network, complemented by road safety and traffic management measures.	75 % of the urban roads rehabilitated during Phase 1 operational and maintained Maintenance budget available Urban Mobility Plan prepared with stakeholders	AGETIP (or other authorized agency) reports Budget for maintenance approved and committed Sector consultation finalized, Urban Mobility Plan approved by the GOS	
Pedestrian and traffic safety along the suburban railway line assured	Adoption of an intermodal plan integrating the railway Concessioning of the operation of the suburban railway line to a private operator	Document approved by the GOS Concession contract with the private operator signed	

Urban Transport Leasing scheme (financial credit and capacity building)	90% of the lease payments due and payable by the operators under the leasing contract has been paid (the 10% balance used after the trigger date of Phase 2) 80% of the public transport vehicles financed under the leasing scheme operate on specific routes under concession agreements	Financial account	
Urban Air Quality Management	Indication of political willingness to take account of the relationship between environment and transport	Update of the Urban Transport Policy Letter (signed in September 1996) integrating environmental concerns	
Reinforcement of the CETUD capacities	Strengthening of CETUD as a regulatory institution	Update of the law and the decree establishing CETUD	

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions (from Objective to Purpose)
Project Development Objective: Efficiency, reliability, quality, and safety of urban mobility improved in the metropolitan area of Dakar	<p>Outcome / Impact Indicators:</p> <p>1/ Reduction in traffic congestion and travel time for commuters</p> <p>2/ Increases in market shares of public transport and percentage of customers satisfied with services</p> <p>3/ Reduction in relative level of emissions generated by motorized vehicles</p> <p>4/ Reduction in the number of fatalities caused by traffic accidents along the Project's main road corridors</p> <p>5/ Decrease in the costs of externalities generated by motorized transport as percentage of GDP</p>	<p>Project reports:</p> <p>Annual traffic surveys with performance indicators</p> <p>Annual independent surveys</p> <p>Regular technical control of vehicles emissions and pollution control measures</p> <p><i>Bulletin d'Analyse des Accidents Corporels</i></p> <p>Regular update of the study on cost of externalities (carried out in November 1998)</p>	<p>Effectiveness of the intermodal policy and transfer between public transport modes</p> <p>Improved market efficiency of operating practices</p> <p>* Regular maintenance policy by <i>Cars Rapides'</i> owners/drivers</p> <p>* Regulatory framework put in place to reduce air pollution generated by motorized transport</p> <p>* Growth in imported polluting vehicles will not overshadow pollution reduction</p> <p>Effectiveness of road safety campaigns and training for <i>Cars Rapides'</i> drivers</p>

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions (from Outputs to Objective)
<p>Output from each component:</p> <p>1. Key urban roads targeted for improved public transport and pedestrian mobility are constructed/rehabilitated and maintained, complemented by road safety and traffic management action plans</p> <p>2. Pedestrian and traffic safety are ensured along the suburban railway line</p>	<p>Output Indicators:</p> <p>1.1. Some 39 kilometers. of urban roads constructed or rehabilitated</p> <p>1.2. Sixty cross-roads redesigned and rehabilitated</p> <p>1.3. Footbridges constructed</p> <p>1.4. Some 135,000 square meters of sidewalks constructed or rehabilitated</p> <p>1.5. Bus lanes established</p> <p>1.6. Speeds bumps in place to reduce the vehicle speed</p> <p>1.7. Fourteen bus stops and terminals constructed</p> <p>1.8. Two awareness campaigns launched yearly</p> <p>2.1. Laying of a third rail</p> <p>2.2. Fencing of the right-of-way</p> <p>2.3. Safety measures implemented</p> <p>2.4. Transfer of the freight terminal</p> <p>2.5. Signaling equipment rehabilitated</p> <p>2.6. Rehabilitation of two railways stations</p>	<p>Project reports:</p> <p>Project M&E system + AGETIP Reports</p> <p>Independent survey by NGOs</p> <p>Project M&E system SNCS reports</p>	<ul style="list-style-type: none"> * Budget for maintenance committed * Timely procurement of works, equipment, and consultants * Effective coordination with all the stakeholders involved (municipalities) Stakeholders ownership and road users are critical Sidewalks kept clear of illegal encroachment and maintained Consistent traffic management regulation implemented Public awareness campaigns conducted regularly during Project implementation Progress made in the concessioning process

<p>3. Urban Transport Leasing Scheme for urban transport operators is operational and professional expertise of the operators is improved</p> <p>4. An enforceable and affordable Urban Quality Management Strategy is designed, implemented, and monitored</p> <p>5. Local expertise in land use, air pollution, and urban transport is strengthened and the operation and expertise of CETUD improved</p>	<p>3.1. Old minibuses replaced and funded by the Leasing Scheme (estimates of 300 new and 600 second-hand vehicles)</p> <p>3.2 Basic management training sessions provided for owners of <i>Cars Rapides</i></p> <p>4.1 Air Pollution Abatement Measures defined and implemented</p> <p>4.2. Support for the implementation of an Urban Quality Management Plan, including the phasing-out of leaded gasoline</p> <p>4.3. Training sessions on maintenance practices</p> <p>5.1 Studies on urban transport carried out</p> <p>5.2. Core municipal staff trained in urban planning and transportation</p> <p>5.3. Decreasing financial support to CETUD for operating costs</p>	<p>Annual Report of the Financing Cooperative</p> <p>Independent assessment by NGOs</p>	<p>Withdrawal of the old <i>Cars Rapides</i> from operation Extension of their financing beyond Project implementation</p> <p>Effectiveness of participation</p> <p>Public transport users response to abatement measures is favorable Enough traffic diverted from city center to reduce traffic congestion and promote accessibility Enforcement and vehicle compliance with technical standards</p> <p>Staff knowledge gained and incorporated into professional practices</p>
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Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
<p>Project Components / Sub-components:</p> <p>1. Implementation of a Program for urban infrastructure construction/rehabilitation and road safety and traffic management measures</p> <p>1.1 Urban roads' rehabilitation</p> <p>1.2. Cross-roads' rehabilitation</p> <p>1.3 Construction of footbridges</p> <p>1.4 Construction of sidewalks</p> <p>1.5 Traffic Management measures</p> <p>1.6 Protection of non-motorized transport</p> <p>1.7 Construction of bus terminals/bus stations</p> <p>1.8 Engineering studies and supervision</p> <p>1.9 Measures to protect the environment</p> <p>1.10 Road user awareness campaigns</p> <p>2. Pedestrian and traffic safety along the suburban railway line</p> <p>2.1 Laying of a third track between Hann and Fass Mbao</p> <p>2.2 Fencing of the right-of-way between Cynros and Fass Mbao (24 km) as well as in densely populated areas, such as Mbao and Rufisque</p> <p>2.3 Improvement of railroad level crossings</p> <p>2.4 Transfer of the freight terminal from Dakar center to Bel Air</p> <p>2.5 Rehabilitation of the signaling between Dakar and Rufisque</p> <p>2.6 Rehabilitation of the Dakar central railway station and the Rufisque railway station</p>	<p>Inputs: (budget for each component)</p> <p>US\$42.40 million</p> <p>US\$10.30 million</p> <p>US\$10.70 million</p> <p>US\$0.26 million</p> <p>US\$1.62 million</p> <p>US\$1.16 million</p> <p>US\$0.50 million</p> <p>US\$11.10 million</p> <p>US\$3.70 million</p> <p>US\$2.55 million</p> <p>US\$0.50 million</p> <p>US\$21.10 million</p> <p>US\$4.05 million</p> <p>US\$8.45 million</p> <p>US\$3.70 million</p> <p>US\$0.85 million</p> <p>US\$0.34 million</p> <p>US\$2.60 million</p>	<p>Project reports:</p> <p>Progress reports and disbursement reports</p> <p>Progress reports and disbursement reports</p>	<p>(from Components to Outputs)</p> <p>* Timely availability of counterpart funds</p> <p>* Timely procurement of works, equipment, and consultants</p> <p>* Local support for all project components is ensured</p>

2.7 Engineering studies and support for the concessioning process	US\$1.11million		
3. Financial and technical support for renewal of the old public transport fleet	US\$25.2 million		
3.1 Credit to the Leasing Company	US\$24.8 million (25% will be financed by the private operators)		Price stability of the foreign components of imported vehicles
3. 2. Institutional support to the private operators (training/capacity building)	US\$0.40 million		
4. Design and implementation of an Urban Quality Management Strategy	US\$9.00 million		
4.1 Construction of and equipment for three technical vehicle control centers, engineering studies, and supervision	US\$6.50 million US\$1.70 million US\$0.80 million		
4.2 Support for adoption of an Urban Air Quality Management Strategy			
4.3 Strengthening of local capacity in air pollution issues			
5. Studies, capacity building, and institutional strengthening of CETUD			
5.1 Studies and monitoring tools	US\$0.90 million		
5.2 Training programs for the sector	US\$1.02 million		
5.3 Operating costs of CETUD			

Key performance and Monitoring Indicators :

See Annex 11, "*Toward an Urban Mobility Charter*" for a complete set of performance indicators.

Annex 2: Project Description

SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

The objective of the UMIP is to contribute to the improvement of the safety, efficiency, and environmental quality of urban mobility in Dakar metropolitan area, and for road safety in Thiès and Kaolack. The Project includes five components. The costs below include provision for physical contingencies and inflation, but not taxes.

By Component:

Project Component 1 - US\$42.40 million

Construction and rehabilitation of road infrastructure and traffic management measures

This component consists of rehabilitation and construction of road infrastructure, including local drainage improvements, primarily for the development of public transport and safe movement of pedestrians in the Dakar metropolitan area. Several existing roads will be rehabilitated or improved, in some cases, through simple improvements, such as repaving or traffic markings. The Project will not be funding any significant new roads. It will include reconstruction and expansion of existing roadways, resurfacing of some roads, opening up districts poorly served by public transport services, as well as widening of roads in some areas. A detailed list of civil works to be carried out is provided in the "*Etude d'évaluation d'investissements routiers de base pour l'amélioration de la mobilité urbaine à Dakar*" (September 1999) and finalized during the appraisal mission (*Aide Memoire* of February 2000).

Priority will be given to: (a) investments to improve the safe flow of public transport vehicles and the safety of pedestrians and other road users; and (b) the hierarchical organization of traffic lanes.

The component will include significant road safety measures: the design and implementation of a road safety action plan for the Dakar urban area, Thiès, and Kaolack, as a follow-up to the study to identify "blackspots" carried out as part of the TA Project. Such safety measures include: (a) the management of accident-prone junctions (identified as traffic accident blackspots) in Dakar, Thiès, and Kaolack; (b) investments in road infrastructure and equipment, including the construction/improvement of sidewalks, pedestrian footbridges over roads with heavy traffic, installation of upright and surface signs, lighting, and markings, installation of speed-reducing devices at specific locations (such as schools and hospitals), protection of non-motorized traffic (through the construction of paths separated from motorized traffic), construction of road median dividers; and (c) awareness campaigns for transport users and operators, together with training of traffic police to improve traffic enforcement capacity.

Finally, traffic engineering management measures will be a part of this component to make better use of existing facilities for movement of persons and goods. These will include: (a) the construction and management of standard bus and *Cars Rapides'* terminals and road-rail feeder stations at the following urban locations: Bargny, Embassy of Japan, Camberene 2, Fast Food Le Regal, Malika, Lamine Gueye, Port Bel Air, Leclerc, Ouakam, Liberté V, Palais de Justice, SCAT Urbam, Sendou, and Yoff Village; (b) the construction of bus stop areas to enable mass transit vehicles to stop and allow passengers to board and exit safely; (c) the construction of terminals (for buses and *Cars Rapides*) at the following urban areas, Abattoir de Hann, Hann Plage, Rufisque, SOTIBA, and Thiaroye-Icotaf; (d) the construction of stations on the outskirts of Dakar to alleviate downtown congestion from inter-urban traffic, especially heavy vehicles (Gare gros porteurs de Diamniadio); (e) the construction of taxi terminals and parking facilities in Pikine, Guédiawaye, Rufisque Goye Mouride, Rufisque Arafat, and Bargny; (f) the provision of bus lanes along selected priority bus routes; (g) the preparation of an Urban Mobility Plan (*Plan de Déplacement dans l'Agglomération de Dakar*) to integrate rail and road modes of transport, urban planning, and housing,

including the purchase of mapping equipment; and (h) improved land use planning. Bus stations and terminals are expected to be managed by private operators under concessioning schemes.

This component also provides for studies, engineering, and supervision activities.

Project Component 2 - US\$21.10 million

Pedestrian and traffic safety along the suburban railway line

This component is expected to improve the security of movement (of pedestrians as well as motorized and railway traffic) along the suburban railway line through the rehabilitation of some of the infrastructure used by the suburban railway services, which will be operated in the future by a private concessionaire. The detailed characteristics of the service to be provided and the equipment to be used by the concessionaire will be determined when the concession is awarded.

The investments planned under this component consist of: (a) the construction of a third track between Hann and Fass Mbao; (b) fencing of the railway right-of-way between Cynos and Fass Mbao (24 km) as well as in densely populated areas, such as Mbao and Rufisque, and construction of 15 footbridges; (c) elimination of the most-trafficked railroad level grade crossings through construction of 4 overpasses and underpasses and the improvement of other level grade crossings in Hann, Marché aux Poissons, Thiaroye, and Rufisque; (d) transfer of the freight terminal from Dakar Center to Bel Air; (e) rehabilitation of the signaling between Dakar and Rufisque, and (f) rehabilitation of the Dakar central railway station of Dakar and the Rufisque railway station as architectural landmarks. This component also includes studies, engineering, and supervision tasks.

The future private concessionaire is expected to finance investments in rolling stock and maintenance facilities and will finance or co-finance with the GOS (under a scheme to be determined) infrastructure investments which are not included in the Project (such as upgrading of signaling and telecommunications stations). Satisfactory progress in the process of concessioning suburban rail services to the private sector will be a condition for disbursement of this component (some disbursements will be triggered by release of the Request for Technical Proposals for the concession and some by the concession award).

This component will also support the process of concessioning of suburban railway services through consulting services (pre-selection of potential strategic shareholders in the concession company, preparation of Requests for Technical Proposals and Financial Proposals, evaluation of technical and financial proposals, and supervision of the implementation of the concession).

Project Component 3 - US\$ 25.20 million

Financial support for the development of a leasing mechanism

This component is to provide financial support for the development of a leasing mechanism necessary for the renovation and rehabilitation of mass transit vehicles, such as *Cars Rapides*. The activities planned include: (a) strengthening the technical, managerial, and operational capacity of *Cars Rapides* operators, and (b) a financing scheme incorporating leasing contracts to enable *Cars Rapides'* operators to upgrade their fleet by purchasing either new vehicles (about 300 vehicles) or rehabilitated and refurbished vehicles (approximately 600 vehicles) which meet safety and toxic emissions standards. The owners/operators will finance 25 percent of the vehicle purchase costs through their down payments.

Project Component 4 - US\$9.00 million*Urban Air Quality Management Strategy*

This component is to improve air quality in the Dakar metropolitan area through a combination of actions, investments, and public awareness activities. The initiatives will focus on: (a) constructing three automobile monitoring centers, the Diamniadio pilot station, the Keur Massar station, and the former TP SOM station; (b) establishing an observatory to monitor urban air pollution in the Dakar metropolitan area; (c) supporting implementation and supervision of an Urban Air Quality Management Strategy, including but not limited to the gradual introduction of unleaded gasoline, support for decentralization of some administrative centers to the outskirts of the city, public awareness campaigns targeting users and sector specialists (such as automobile and fuel distributors), and a toxic emissions control program targeting motorized vehicles; and (d) conducting awareness campaigns and consultation meetings with road users and the transport industry, including the *Société Africaine de Raffinage* and fuel dealers. The design, implementation and supervision of the Urban Air Quality Management Strategy will benefit from the support of the Clean Air Initiative in Sub-Saharan African Cities, launched in 1998 by the Urban Mobility Component of the SSATP, in partnership with the World Bank Institute.

Project Component 5 - US\$4.62 million*Capacity building and institutional support for CETUD*

This component is to: (a) strengthen sector capacity to manage air pollution, road safety, land use, intermodal transport policy and promotion of public transport, urban planning, as well as to provide tools and techniques for evaluating the sector's performance and management capacities; support will also be provided for implementation of the HIV prevention campaigns in urban areas; (b) prepare *ad hoc* studies and assessments on urban transport, air pollution, and urban planning, consistent with the city's physical growth and land-use master plan, a Long-term Urban Mobility Strategic Plan that would identify different public transport options to meet the Dakar's future needs; this will also include feasibility studies to prepare Phase 2 of the APL; and (c) pursue the sector institutional reforms and support CETUD in its capacity as the Project executing agency and regulatory authority for urban transport in the Dakar metropolitan area. The Project will provide institutional support, including project supervision and management, financial management, and performance and monitoring tools through consultant services and equipment.

Annex 3: Estimated Project Costs
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

Project Cost By Component	Local US \$million	Foreign US \$million	Total US \$million
Construction & Rehabilitation of Road Infrastructure and road safety and traffic management measures	17.50	20.04	37.54
Pedestrian and traffic safety along the suburban railway line	4.80	13.80	18.60
Financial support for the development of a leasing mechanism	4.50	17.40	21.90
Urban Air Quality Management	2.40	5.10	7.50
Capacity building and institutional support for CETUD	2.30	2.50	4.80
PPF refinancing	0.28	0.28	0.56
Total Baseline Cost	31.78	59.12	90.90
Physical Contingencies	3.20	5.20	8.40
Price Contingencies	1.60	2.10	3.70
Total Project Costs	36.58	66.42	103.00
Total Financing Required	36.58	66.42	103.00

Project Cost By Category	Local US \$million	Foreign US \$million	Total US \$million
Civil Works (CETUD)	17.60	15.78	33.38
Civil Works (SNCS)	4.57	12.04	16.61
Goods (CETUD)	4.93	18.25	23.18
Goods (SNCS)	0.12	0.58	0.70
Consultant Services (CETUD)	3.15	10.42	13.57
Consultant Services (SNCS)	0.00	0.92	0.92
Training	0.34	0.51	0.85
Operating Costs	0.72	0.18	0.90
Physical Contingencies	3.17	5.22	8.39
Price Contingencies	1.57	2.96	4.53
Total Project Costs	36.17	66.86	103.03
Total Financing Required	36.17	66.86	103.03

Annex 4
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT
Economic Analysis

Introduction

1. The UMIP's objective is to ensure a safer, more efficient, affordable, and environmentally friendly mobility in the Dakar metropolitan area, with particular emphasis on pedestrians and public transport. The overall program is divided into two phases consisting of investments totaling US\$103 million for the first phase, while the investment for the second phase will be about US\$31.4 million. To achieve its objective the proposed Project envisages investments in competitive intermodal tracks (roads, railway, and non-motorized) resulting in the reallocation of traffic among the various modes to achieve improved traffic flow.

2. The Dakar area, with 2.2 million inhabitants in 1998, is home to 24 percent of Senegal's population. It has grown rapidly in recent years and is now the country's primary commercial center, accounting for about 60 percent of GDP. Its transport network, however, has not kept pace with population and economic growth. Lower than needed investment in the expansion of the transport network has led to heavy traffic congestion, impeding the development of economic and commercial activities. Dakar's share in Senegal's total vehicle fleet is 67 percent (Table 4.1), and much of it is old; only 4.3 percent of the fleet is less than 3 years old, while more than half of the private cars are 10 years old or older. Currently there are no restrictions on the import of old vehicles used in city transport. Studies have estimated that Dakar's total demand for public transport is 4.3 million rides per day, of which 73 percent are motorized, 70 percent are on public transport, and 65 percent on buses or *Cars Rapides*.⁽¹⁾ The *Cars Rapides*' fleet is about 3,500.

Table 4.1: Estimated Car Fleet in Dakar and Senegal, 1998

Type of Car	Dakar Total	Dakar (Less than 3 yrs.)	Senegal Total	Percent of Dakar in Total Fleet
Private Cars	60,772	2,355	86,248	70.4
Autocars	7,144	162	10,215	69.9
Small Trucks	8,575	988	15,947	53.7
Trucks	5,206	122	8,582	60.6
Working Type Trucks	1,589	38	2,437	65.2
Semi-Trailer	1,943	15	2,891	67.2
Total	85,229	3,681	126,320	67.4

Source: Ministry of Transport

Approach

3. The Project is part of a phased intervention program to improve traffic flow in metropolitan Dakar as well as the safety of vehicles, passengers, and pedestrians on the city's heavily congested roads. The economic analysis of the program deals here only with the first phase of investments. This approach has been taken given the nature of the credit (an APL), and the difficulty of quantifying *a priori* the benefits of the second phase, which would be put in place only after the first phase of the program has been successfully completed.

4. The following economic analysis examines the impact of the proposed investments by performing a cost-benefit calculation of a "with and without" scenario for the road rehabilitation component. It includes separate computations for three of the Project's main components: (i) road rehabilitation; (ii) establishment of a leasing scheme for the renewal of the informal public transport vehicles and buses; and (iii) measures for pedestrian and traffic safety along the suburban railway. The economic rate of return (ERR) of the road rehabilitation component is estimated at 37 percent. The figures were calculated on the basis of: (i) cost savings resulting from improvements in the transport system; and (ii) health improvements from reduced air pollution. The leasing scheme analysis incorporates: (i) the value of improved passenger safety from the use of safer public transport vehicles; and (ii) the actual payments of the lessees to the leasing facility that would be established.

5. The proposed Project is expected to benefit the population of greater Dakar by reducing the negative externalities associated with the large expansion of the city in recent years. These externalities have been estimated by an independent study at 4.6 percent of Senegal's GDP. (2) The Project is expected to:

- (a) improve the safety of passengers and pedestrians using the transport network (Dakar's current high accident rate is one of the worst in Sub-Saharan Africa (see Table 4.2);
- (b) reduce the amount of time lost in traveling to and from the center of the city (it is estimated that greater Dakar's inhabitants are currently losing about 1.02 million hours per day);
- (c) reduce vehicle operating costs as a result of shorter travel time and increased speed;
- (d) extend public transport services to currently unserved areas;
- (e) reduce health costs associated with air pollution related diseases (mainly respiratory and skin diseases);
- (f) renovate some of the local transport vehicles; and
- (g) improve the suburban rail system's quality of service and increase its number of passengers.

6. The Project's total cost was estimated in constant 1999 prices, including physical contingencies but excluding taxes and interest. The direct foreign component of the Project is estimated at 65 percent of the total cost. The estimate took into account the following considerations: (i) the current price of foreign exchange in Senegal does not reflect its true value. The equilibrium price of foreign exchange is estimated to have a 14 percent premium, and if included in the cost-benefit calculation it would have reduced the Project's ERR to 34 percent. (ii) Adjusting for the shadow labor rate results in no change since most of the labor to be employed under the Project would already be engaged in the sector. It is expected that implementation of the proposed Project will not require a major increase in staff.

7. Measuring and quantifying *benefits external to the sector* are not fully captured in the cost-benefit analysis since such effects are not accounted for in the demand curves. These benefits could, therefore, be taken into account and added to the direct benefits mentioned above. Spillovers, which express divergences between the private and social costs (or benefits) are not fully reflected in policy makers' investment decisions. Technical spillovers (affecting the production function) and pecuniary spillovers (affecting the profits and losses of firms in the market) are usually underestimated. The *stemming benefits* from investments in the transport sector in the Dakar area will be supported by a net income increase in the complementary branches of the economy, which transport, manufacture, and sell products and services.

Road Rehabilitation Economic Analysis

8. The appraisal of the Project's road rehabilitation component quantifies the real economic costs and benefits of improvements in the road network that would accrue from its rehabilitation and extension. A

study on the social costs of the transport system in Dakar was performed recently. It follows the damage evaluation method, aiming to quantify the damage attributed to each of the externalities (congestion, time lost, and air pollution). The following analysis adapts the unit estimations calculated in the study, and amends them to fit the Project's investments. A detailed calculation of the benefits and their ranges was made in the sensitivity analysis.

9. *Costs.* The economic costs of the component include the various type of investments necessary to achieve improvements in the existing safety measures and the traffic flow in and around the city. These costs include the: (i) construction, rehabilitation, and expansion of the urban road network; (ii) redesign of various crossroads around the city; (iii) improvement of access to areas without a proper connection to the road network; and (iv) incremental expenditures on operations and maintenance to keep the above investments in a full operational mode. *Note of caution.* Since the benefits deriving from the Project are combined, while the analysis performed is calculated separately for each of the three main Project components, these costs were attributed proportionally to the analysis of each component. Although this method will not have an effect on the aggregate Project ERR, it would still have a very minor impact on the accuracy of the individual ERRs of each component and should, therefore, be treated with caution.

10. *Benefits.* It is expected that the Project's integrated measures and investments will generate benefits that will improve the flow of traffic and safety and reduce the operating costs of vehicles operating in Dakar. These consist of:

(i) *Benefits from reduced accidents.* The inclusion of benefits deriving from reduced accidents is problematical, since it is hard to assess the impact that road improvements would have on the number of accidents in Dakar.(3) The evaluation performed here estimates a range of possible reductions in the accident rate. The benefits from reduced accidents in the cost-benefit analysis are attributed to three main sources (4): (i) benefits from a reduction in the number of deaths; (ii) benefits from a reduction in the number of injured (average and critical); and (iii) benefits from a reduction in the damage caused to cars by accidents. (5) The cost-benefit analysis appearing below (Table 4.2) takes into account a conservative rate of 10 percent reduction in the rate of the above incidents. The estimation of a loss of life, expressed in forgone income, was based on the net loss of 20 years of equivalent income, adjusted to Senegal's GDP figures. A 10 percent reduction in Dakar's accidents and a 20 percent in car damage has a NPV of US\$7.58 million @ a 12 percent discount rate.

Table 4.2: Accidents in Dakar (yearly Statistics)

	1995	1996	1997	1998	Yearly Average
Number of Accidents	2,318	1,899	2,462	2,969	2,412
Out of which					
Number of killed people	379	180	85	309	238
Number of critically injured	2,104	1,174	1,354	2,068	1,675
Number of lightly injured	2,549	1,336	1,571	2,399	1,964

Source: Ministry of Equipment and Land Transport Statistics

(ii) *Benefits from reduced congestion.* A study measuring daily traffic congestion in and around Dakar used the standard European model (EMM2) to quantify and measure transport movement and congestion. The quantified output estimated that Dakar is currently losing 1.02 million hours per day as a result of congested roads. Most of these losses are concentrated around two main peak periods, morning and afternoon, when most workers go in and out of the city center. The calculation of benefits from reduced

congestion includes a range of possibilities, while the basic scenario includes a 10 percent reduction in traveling time. The calculation was based on half the value of the local average hourly wage of FCFA 246 (about 38 US cents) to reflect the combination of work and leisure lost. (6) A 5 percent reduction in Dakar's average travel time has a NPV of US\$39.6 million @ a 12 percent discount rate.

(iii) *Benefits from reduced operating costs.* The Project is expected to reduce the average operating costs (per km driven) as a result of: (i) reduced travel time due to increased average cruising speed, and (ii) a reduction in repair and maintenance expenses as a consequence of road rehabilitation and extension. The estimate of the above reduction can by no means be accurate with the available data. However, the analysis follows a straightforward methodology based on the current variable operating estimated costs. (7) It assumes a modest 1 percent reduction in the variable operating costs of Dakar's fleet at the end of the Project. The 1 percent reduction in the operating variable costs is calculated only on 5,000 kilometers per car, a distance that cars are estimated to drive yearly on the road network of Dakar region (the Project area). A 1 percent reduction in the variable operating costs has a NPV of US\$21.65 million @ a 12 percent discount rate.

(iv) *Health Benefits.* The data on Dakar's emissions and air quality has been collected while trying to quantify externalities associated with the transport system. (8) These estimates should be treated with caution. Health benefit calculations are usually based on the changes in the dose-effects of pollution in a city/area, but the average level of pollution in Dakar is not precisely known at present. The linkages between emissions' reduction and health benefits are even harder to quantify and prove. The health benefit calculation in the analysis has used available statistics on the main polluting substances in Dakar, on the one hand (CO, CO₂, NO₂-NO_x, O₃, SO₂, and more), and statistical information on respiratory diseases on the other. Dakar had a yearly average of 25,150 respiratory related sicknesses (excluding tuberculosis), which represents 5.4 percent of the area's total sicknesses. It is estimated that Dakar's public transport system contributes about a third of the total emissions in the city. (9) High-risk groups include all people in congested areas such as bus and taxi stations, markets, schools, and workplaces near heavily traveled roadways, all of which are abundant in Dakar. As air pollution can be an important and a direct cause of respiratory diseases, the calculation in the analysis takes into account a base case of a 5 percent reduction in a third of the total prevalence of respiratory sicknesses (analogous to its contribution) as a consequence of improved technical control, traffic flow, and improved regulation of the city's car fleet. A 5 percent reduction in a third of Dakar's respiratory diseases has a NPV of US\$0.00624 million @ a 12 percent discount rate.

Leaded gasoline. The Project's policy measures will help to phase out the use of leaded gasoline which poses a great health hazard. (10) Quantifying the positive effects of introducing unleaded fuel is difficult since leaded gasoline is not the sole factor in increased lead blood levels. However, it has been established that these levels can be as much as 20 times higher in congested cities where leaded gasoline is used. Citizens in Bangkok, Manila, and Damascus have lead blood levels 10-18 times higher than people in an average US city. The benefits expected from the phase out of leaded gasoline in Dakar are not quantified in the cost-benefit analysis, but they are mentioned qualitatively.

Table 4.3: Costs and benefits of the main assumptions (millions of US\$ in 1999 prices)

	Total	2001	2002	2003	2004	2005	2006	2007
Costs								
Investment Costs								
Road Rehabilitation	11.02	2.76	2.76	2.76	2.76			
Reconstruction of Cynros Junction	13.07	3.27	3.27	3.27	3.27			
Sidewalks Construction	1.55	0.39	0.39	0.39	0.39			
Security, Fluidity & Non Motorized	2.14	0.54	0.54	0.54	0.54			
Bus and interurban stations	11.82	2.95	2.95	2.95	2.95			
Other	0.69	0.17	0.17	0.17	0.17			
Studies & Supervision	4.03	1.01	1.01	1.01	1.01			
Maintenance Costs								
Maintenance costs with project	18.84	0.00	0.76	1.53	2.29	3.13	3.13	3.13
Maintenance costs without project	30.31	0.00	1.22	2.44	3.66	5.04	5.04	5.04
Incremental Maintenance costs	-11.46	0.00	-0.46	-0.92	-1.37	-1.91	-1.91	-1.91
Incremental costs	32.86	11.08	10.62	10.16	9.71	-1.91	-1.91	-1.91
Benefits								
A From Reduced Accidents*								
Reduction in Deaths	\$2.12	0.19	0.20	0.21	0.21	0.22	0.23	0.24
Reduction in Injured	\$2.79	0.25	0.26	0.27	0.28	0.29	0.30	0.32
Reduction in Car Damages from Accidents	\$2.68	0.24	0.25	0.26	0.27	0.28	0.29	0.30
Total from Accidents	\$7.58	0.68	0.71	0.74	0.76	0.80	0.83	0.86
B From Reduced Congestion**								
Savings from Hours Lost	\$39.68	3.56	3.70	3.85	4.00	4.16	4.33	4.50
Savings from Lower Operating Costs	\$21.65	0.23	0.72	1.49	2.33	2.69	2.80	2.91
C Reduced Air Pollution***								
Reduced Air Pollution***	\$0.09	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total Benefits	\$76.58	5.1597	5.84	6.82	7.87	8.46	8.80	9.15
Net Benefits	\$54.39	-5.92	-4.78	-3.34	-1.83	10.37	10.70	11.06
IRR		37%						
NPV of Net benefits @12%		\$54.39						

* Estimates a 10% reduction in deaths & injured, and 20% reduction in car damages

** Estimates a 5% reduction in congestion using 50% of the hourly wage rate and a 4% GDP growth rate

*** Estimates a 5% reduction in respiratory diseases

**** for full calculation see annexes

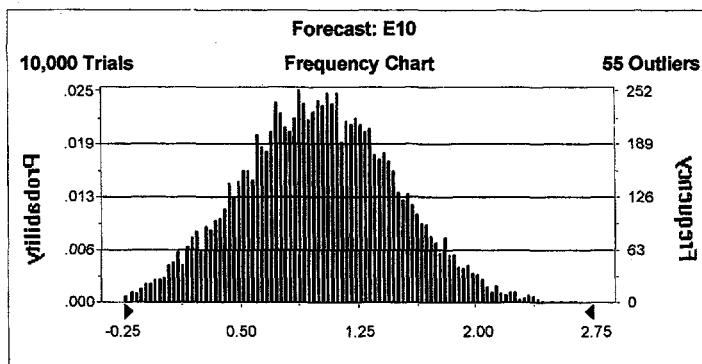
The table below presents the sensitivity of the Project's IRR and NPV to changes in its main parameters.

Table 4.4: Changes in the cost and benefits of the main assumptions

	Change	IRR	NPV of Net Benefits (US\$ million)
Regular (No Changes)	0%	37%	\$54.39
Investment Costs	10%	33%	\$52.17
	-10%	43%	\$56.61
Congestion Benefits	10%	41%	\$60.53
	-10%	33%	\$48.26
Accidents Reduction	10%	38%	\$55.91
	-10%	36%	\$52.88

11. In order to forecast the scenarios presented in the above economic analysis, a simulation that includes a range of possible scenarios was performed. To construct such a simulation, a forecasting and risk analysis software (Crystal Ball) was used that performs a Monte Carlo risk analysis, in which a set of possible values for each uncertain parameter is defined. Such a simulation recalculates the main assumptions used in constructing the cost-benefit analysis (two sets of assumption parameters have been used in this case -- the total costs and total benefits of the Project), while the forecasted parameter is the IRR on the investments. The simulation displays the results in a forecasting chart with the entire range of possible outcomes, and the likelihood of achieving each of them. Table 4.5 below summarizes the frequency and probability with which the IRR will occur.

Table 4.5: Frequency chart of the Project's IRR (percent)



Cars Rapides' Leasing Scheme Economic Analysis

12. Dakar's fleet of 3,500 private minibuses is a source of livelihood to more than 35,000 people, with annual revenues of around US\$121 million. They are the most popular transport mode in the city, and have been operating without any public assistance, unlike most other forms of public transport in Senegal. While it did not receive external assistance, the fleet has been expanding constantly, but while the *Cars Rapides* are the most popular mode of transport, they are considered to be dangerous for travel around Dakar. They are currently banned from entering the city center and operate on routes which are

not covered by other public transport operators. They provide about 1.85 million rides each day.

13. The primary objective of the leasing scheme is to initiate the renewal of the local public transport system, currently unable to afford the high local credit market interest rates. Before getting into the various technicalities of the scheme, justifying the economic rationale of this intervention is necessary. The main *raison d'être* of renewing a private minibus fleet, at a subsidized interest rate of 8 percent, has been debated by many observers. In recent years, the public bus company (SOTRAC) has been provided with external assistance in the form of loans and TA which enabled it to survive and continue operating. However, the company has steadily been losing market share (currently estimated at 1-2 percent) in the Dakar region. Attempts to privatize SOTRAC, although pursued and approved by the Government, have not yet been successful. The Project's approach of supporting private operators is based on the notion that by correcting the risk perception of this group by clustering the operators into a cooperative (G.I.E.) and initiating a mechanism to facilitate their access to the credit market, that the externalities they produce will be reduced substantially. By establishing the G.I.E.s and facilitating the financing and formalization of their practices (such as insurance, technical inspections, and training of drivers) the local financial market's risk perception will improve and it will more likely offer increased credit to this sub-sector.

14. *Risk mitigation.* The private operators would have to deposit with the financial manager of the scheme a down payment equal to 25 percent of the cost of the vehicle, in addition to a sum equal to three monthly lease payments. The rest of the vehicle cost will be financed through the credit facility over a period of six years, including a grace period of one year. The risk-mitigating measures include the social pressure imposed on the leaseholders by: (i) the operators within the G.I.E. who are guaranteeing the other group members' loans, and (ii) the other *Cars Rapides'* operators who have not yet joined the scheme in its pilot phase. The guaranteeing of payment for defaults, with collateral of the cooperative members in addition to the personal guarantees requested, would reduce the risk of default substantially and would help bring about the long overdue renewal of the public transport fleet. An exit strategy, which serves as an additional precaution, in case of a default on a certain percentage of the lease payments, has to be envisioned as a part of the scheme.

15. The cost-benefit calculation of the component corresponds to the financial transactions of the leasing facility. The analysis is conservative and similar to a financial calculation as it focuses on the monetary value of the costs and benefits, and omits a quantitative calculation of the externalities involved. The high social costs associated with this sub-sector, such as high accident rates and the large contribution to air pollution, are not quantified but mentioned qualitatively. The overall benefits of replacing the *Cars Rapides'* fleet should be seen in a broader context than the incremental value of rides generated by the new cars. These benefits relate to the establishment of a local credit financing mechanism for the most popular means of public transport that serves the poorest segment of the population (about 1 million people daily) and is vital for the development of Dakar's urban economy.

16. Each car approved for the leasing scheme will replace an older car, estimated to be about 20-30 years old. This will ensure that the scheme's objective of reducing the amount of old cars circulating around the city is achieved. The operators of the old cars, that will be scrapped and destroyed, will be compensated for the loss of a productive asset.

Table 4.6: Example of a Single Car Financing Path

	In FCFA	In USD
Total Car's Cost	12,000,000	18,462
Personal Down Payment	3,000,000	4,615
Amount Financed by the Credit	9,000,000	13,846
Interest Rate	8%	8%
Residual Value	600,000	923
Number of Payments	60	60
Monthly Payment	227,451	350
VAT	20%	20%
Total Monthly Payment	272,941	420

17. The economic analysis makes sure that the amount loaned to the operators is compatible with the *Cars Rapides'* generated cash flow. A car's average monthly operation scenario was carefully constructed and is presented in the table below. It aims to verify the possibility of an owner to pay for his lease payments with the current tariffs and operating costs, and it calculates the equilibrium price at which the car owner will break even. The scenario is by no means the only one as there are various types of cars (SG2/Renaults and Mercedes) and different lines operating around the Dakar region. The table below assumes the owner will lease a car at a total cost of FCFA 12 million and will thus be required to reimburse FCFA 227,451 per month. It also shows that to reimburse this amount and given a total monthly expense of FCFA 596,000, the tariff charged per ride would need to be raised to at least FCFA 132 (assuming 25 working days per month and 250 passengers per day). It is conceivable that various type of services (and thus prices) will be offered through the renewal of the fleet. From the studies conducted and meetings held with the Project team, there would seem to be room for a differentiation of services, some of which would be geared to the higher-end clients, by the cars covering the whole distance between Dakar and the satellite towns (unlike today when the distance is broken into a few segments). (11) The scenario presented below (Table 4.7) allows a maximum affordable car cost, given the average tariffs. Similar scenarios were constructed for different types of cars and various tariff levels.

Table 4.7: A Car Rapide average monthly operation scenario

With a Car Cost of 12,000,000 FCFA				
Cost per Ride @	100FCFA	150FCFA	175FCFA	200FCFA
Expenses out of which:				
Salaries	188,000			
Petrol	258,000			
Insurance	60,000			
Maintenance and Misc.	80,000			
Licenses	10,000			
Total Expenses	596,000			
Gross Revenues	625,000	937,500	1,093,750	1,250,000
Total Costs	596,000	596,000	596,000	596,000
Lease Payment	227,451	227,451	227,451	227,451
Margin	(198,451)	114,049	270,299	426,549
Equilibrium Price	132			

18. The Project proposes to finance, in the initial pilot phase, a combination of mostly used cars and a small number of new cars. This precaution is taken, in addition of the phasing of the whole component into three phases, to make sure that the assumptions used in the projections correspond to the actual situation. When working with an informal sector (such as the one described below) it is of primary

importance that the data given, studied, and used be confirmed. When the operators start reimbursing the credit facility, the Project will be able to refine the cost composition of the vehicles financed, in order to maximize and adapt the credit facility to the sector's needs.

19. As the figures used in the calculation are based on various assumptions it would be useful to have a sensitivity estimation for the capacity to make lease payments, assuming an increase in the *Cars Rapides*' total operating expenses. The table below presents the various probable scenarios with different type of cars financed by the facility.

Table 4.8: Tariff Scenarios with different costs of *Cars Rapides*

Cost of Car (FCFA)	Change in Total Expenses (%)	Tariff Equilibrium (FCFA)
8,000,000	0	122
8,000,000	+10	131
8,000,000	+20	141
10,000,000	0	127
10,000,000	+10	136
10,000,000	+20	146
12,000,000	0	132
12,000,000	+10	141
12,000,000	+20	151
14,000,000	0	137
14,000,000	+10	146
14,000,000	+20	156

Pedestrian and Traffic Safety along the suburban railway line Economic Analysis

20. During the first APL this Project component will: (i) construct a third track between Hann and Fass-Mbao (US\$3.53 million); (ii) rehabilitate the signaling system along Dakar-Rufisque route (US\$0.3 million); (iii) construct a fence along the railway track (24 km) and establish 15 pedestrian overpasses (US\$7.38 million); (iv) construct 4 road overpasses (US\$3.23 million); (v) rehabilitate the Dakar and Rufisque central stations (US\$2.3 million); and (vi) transfer the freight terminal to Bel Air (US\$0.77 million). The second APL envisions the construction of suburban stations (buildings and platforms) and the establishment of advanced signaling systems and rolling stock maintenance facilities.

21. The main objective of this component is to prepare the suburban railway line for concessioning, increase the number of passengers, and improve operational efficiency. Most of the activities proposed under the first phase of the Project (excluding the construction of a third track between Hann, Thiaroye, and Fass-Mbao) are not contingent or related to the successful concessioning of the suburban line, and can not all be justified on economic grounds. Some of them are related to the number of passengers who will be using the railway in the future. The justification for the investments related to the construction of a fence along the railway track, the establishment of 15 pedestrian overpasses, and the construction of 4 road overpasses at a total cost of US\$10.6 million can be made on the basis of lives saved (safety reasons) and a reduction in pedestrian-related interruptions along the railway. If the economic viability of these investments were calculated, solely on the basis of lives saved (based on foregone income), about 1500 lives would need to be saved to justify the investment costs. Even though this calculation is absurd and misleading, it gives an indication of the relatively high cost of implementing these safety measures.

An additional activity included in the component is the renovation of Dakar's central station. This activity cannot be justified on economic grounds but rather on the basis of cultural heritage preservation.

22. To perform a full-scale quantitative economic analysis of the component, the cost of operating the railway line to be concessioned needs to be established. In addition, the necessary investments would need to be compared to the alternative investments for expanding the roads, all of which is difficult to estimate at this stage. There is little reason to construct a cost-benefit calculation without the necessary data. At present the railways are operating at a staggering deficit. The preliminary estimate of the average variable cost per passenger (without depreciation, renewal, and maintenance costs) is around FCFA 300. In order to arrive at the total cost of operating the railway, the average fixed cost (which includes the long-term costs of operating the railway infrastructure) needs to be added to the variable costs. This information is not yet known. Currently, the average tariff per passenger in Dakar is around FCFA 100 and does not cover even half of the variable operating costs.

23. As a part of the concessioning of the railway, a feasibility study is to be launched shortly and completed by May 2001. It will examine the feasibility of concessioning the suburban railway line, verify the regulatory and legislative changes needed, calculate the cost of operating the line, and assess the willingness and ability of the population to pay for improved services. The general methodology sought after by the GOS is to provide an upfront subsidy in the form of investment in the infrastructure, while making sure that the operating costs are covered by the tariff charges.

24. To attain the Government's goal in the sector, significant changes need to take place. These changes include: (i) a substantial increase in the efficiency of the railway; (ii) a large increase in tariffs; *and* (iii) a willingness and ability to pay for better service offered. Before launching into detailed preparation for concessioning the suburban railway, it would be prudent to verify that under the current conditions (Government approval of tariff increases in addition to expected efficiency gains) a concessionaire would be able to earn a profit while operating the railway. Otherwise there is a high probability that even as a concession is prepared, a concessionaire will not be found. The economic analysis suggests that before starting an extensive and expensive feasibility study, it might be useful to make preliminary estimations of whether substantial increases in the railway tariffs are feasible in the local context, and would be accepted by the Government as well as the public. Following the rationale above, *only* after the demand for a higher tariff is established, and the cost of operating the railway under a concession agreement put in place, will it be possible to make an economic evaluation to determine whether the path proposed is justified.

Footnotes:

- 1) Systra, "*Etude sur la restructuration des transports en commun, la capacite a payer et l'indentification du reseau a conceder*", August 1998.
- 2) Tractebel, "*Etude sur l'analyse des couts des dysfonctionnement des trasnports en commun dans l'agglomeration de Dakar*", October 1998. The study is used as a reference point, while the assumptions used in the cost benefit analysis performed are separately explained in the calculations.
- 3) The data used in the calculation are based on the official statistics of the Ministry of Equipment and Transport. "*Statistiques sur les accidents corporels de 1995-1997*", November, 1998.
- 4) Thomas and Jacobs, "Predicting changes in accident rates in developing countries following modifications in

road design”, July 1998.

5) Transport Research Laboratory and Overseas Development Administration, “Costing road accidents in developing countries”, July 1998.

6) Kenneth Gwilliam, “Value of time in economic evaluation of transport projects: lessons from recent research”, July 1998.

7) Republique du Senegal, “*Couts et Conditions D'Exploitation des vehicules routiers au Senegal*”, May 1995.

8) Estimations of emissions’ quantities due to traffic in Dakar have been developed by Tractebel Environment with the EMM2 model, used frequently by the European Commission.

9) Tractebel, “*Etude sur la qualité d'air en milieu urbain de Dakar*”, December 1998.

10) Magda Lovel, “Eliminating the silent threat - World Bank support for the global phaseout of lead from gasoline”, May 1999.

11) Access Finance Gestion, “*Analyse Juridique et Financiere du Mecanisme de Leasing*”, December 1999.

Annex 5: Financial Summary
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT
Years Ending

	IMPLEMENTATION PERIOD						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Total Financing Required							
Project Costs							
Investment Costs	11.1	27.5	37.2	27.2	0.0	0.0	0.0
Recurrent Costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Costs	11.1	27.5	37.2	27.2	0.0	0.0	0.0
Total Financing	11.1	27.5	37.2	27.2	0.0	0.0	0.0
Financing							
IBRD/IDA	7.0	19.5	25.6	17.9	0.0	0.0	0.0
Government	0.6	0.9	0.9	0.6	0.0	0.0	0.0
Central	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provincial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Co-financiers	3.3	5.9	8.5	6.2	0.0	0.0	0.0
User Fees/Beneficiaries	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.2	1.2	2.2	2.5	0.0	0.0	0.0
Total Project Financing	11.1	27.5	37.2	27.2	0.0	0.0	0.0

Main assumptions:

N.A.

Annex 6: Procurement and Disbursement Arrangements
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

Procurement

A Country Procurement Assessment Report (CPAR) was completed in July 1994. For the program, findings of the CPAR remain valid. In general, Senegal's procurement laws and regulations do not conflict with IDA Guidelines. No special exceptions, permits, or licenses need to be specified in the Credit documents, since Senegal's procurement practices allow IDA procedures to take precedence over any contrary provisions in local regulations. IDA financed Works and Goods will be procured in accordance with Bank's Guidelines under IBRD Loans and IDA Credits (January 1995 revised in January, August 1996 and January 1999). IDA's standard bidding documents will be used for all procurement under International Competitive Bidding (ICB). National Competitive Bidding (NCB), advertised locally, would be carried out in accordance with Senegal's procurement laws and regulations, and acceptable to IDA, provided that (i) a bidder is given sufficient time to submit bids (four weeks); (ii) bid evaluation and bidder qualification are clearly specified in bidding documents; (iii) no preference margin is granted to domestic manufacturers; (iv) eligible firms are not precluded from participation; (v) award will be made to the lowest evaluated bidder; and (vi) prior to issuing the first call for bids, draft standard bidding documents are submitted to IDA and found acceptable.

Procurement methods (Table A)

Civil Works: Contracts for works above US\$500,000 including road and railway rehabilitation, and civil works for road safety will be procured through ICB. For contracts estimated to cost less than US\$500,000 equivalent, national competitive bidding may be used, provided that the aggregate amount of such procurement does not exceed US\$ 2,500,000. Small contracts, mostly for road safety, estimated to cost less than \$50,000 each, up to an aggregate amount of US\$ 100,000 would be procured under lump-sum, fixed-price contracts awarded on the basis of quotations obtained from at least three qualified domestic contractors invited to bid by way of discounts or increase either on the total price or on the unit prices. The invitation shall include reference unit prices established by an engineer, a detailed description of the works, including basic specifications, the required completion period, a basic form of agreement described in a Manual of Procedures, and relevant drawings, where applicable. The award would be made to the contractor with the lowest price quotation for the required work, provided he demonstrates he has the experience and resources to successfully execute the contract. Civil works contracts will be managed by a contract management entity acceptable to IDA and selected in accordance with the procedures for the hiring of consultants.

Goods: IDA financed goods will be procured through ICB in agreement with the Bank's Guidelines mentioned above. Procurement arrangements for goods, mostly for office supplies and the purchase of public transport vehicles, below US\$100,000 would be subject to NCB procedures acceptable to IDA up to an aggregate amount of US\$1.77 million. In accordance with Bank guidelines, a preferential margin of 15 percent (or the applicable customs duty, which ever is less), over c.i.f. prices of competing goods for all ICB procurement would be given to domestically manufactured goods. Contracts for small equipment, locally available from the shelf at economical prices and costing less than US\$50,000 each, would be subject to national shopping, provided it does not exceed an aggregate amount of US\$200,000 by obtaining at least three quotations from reliable suppliers.

Commercial Practices: Under the component for developing leasing mechanisms, the IDA credit will provide funds to an intermediary institution, to enable private sector bus operators to upgrade their fleet by purchasing about 300 new vehicles and about 600 second-hand ones. The intermediary institution will be responsible for undertaking procurement, on the behalf of beneficiaries, in accordance with commercial practices and acceptable to the Bank, provided (a) ICB is used for the purchase of large quantities of buses to be grouped into lots exceeding US\$100,000 equivalent; and (b) at least three quotations are obtained from reliable suppliers of the vehicles. The latter will apply up to US\$ 1 million. Prequalification of garages will take place for repairs of vehicles and taxis, before seeking quotations. Technical audits will be carried out by an independent expert recruited for the project to ensure compliance with toxic emission standards.

Consultants and other services financed by IDA would be for (i) contract management services, studies and supervision of works; (ii) technical and financial audits; (iii) technical studies (mostly traffic studies); and (iv) training. Consultants would be hired in accordance with Bank Guidelines for the Selection and Employment of Consultants (January 1997, revised in September 1997 and January 1999). Most consultants selection (design, technical audits, training and technical studies) will be addressed through competition among qualified short-listed firms in which the selection will be based on Quality-and Cost-Based Selection (QCBS), by evaluating the quality of the proposal before combining quality and cost evaluation by weighing and adding the quality and cost scores. For works supervision and financial audits, the Least-Cost Selection (LCS) will be the most appropriate method. Services for small studies which can be delivered by Individual Consultants will be selected through comparison of at least three CVs and qualifications. Short-lists for contracts under US\$100,000 may be comprised of national consultants if a sufficient number of qualified firms (at least three) are available at competitive costs. However, if foreign firms express interest, they will not be excluded.

Table A: Project Costs by Procurement Arrangements
 (US\$ million equivalent)

Expenditure Category	Procurement Method¹			N.B.F.	Total Cost
	ICB	NCB	Other²		
1. Works	32.00 (28.80)	2.50 (2.25)	0.10 (0.09)	23.30 (0.00)	57.90 (31.14)
2. Goods	1.00 (0.90)	1.77 (1.59)	0.20 (0.18)	0.00 (0.00)	2.97 (2.67)
3. Services	0.00	0.00	15.50	0.30	15.80
Training	(0.00)	(0.00)	(15.50)	(0.00)	(15.50)
4. Operating Costs	0.00 (0.00)	0.00 (0.00)	0.93 (0.79)	0.00 (0.00)	0.93 (0.79)
5. PPF Refinancing	0.40 (0.40)	0.00 (0.00)	0.15 (0.15)	0.00 (0.00)	0.55 (0.55)
6. Goods/leasing scheme	23.86 (17.89)	0.00 (0.00)	1.00 (0.75)	0.00 (0.00)	24.86 (18.64)
Total	57.26 (47.99)	4.27 (3.84)	17.88 (17.46)	23.60 (0.00)	103.01 (69.29)

¹/ Figures in parenthesis are the amounts to be financed by the IDA Credit. All costs include contingencies

²/ Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

Prior review thresholds (Table B)

IDA financed contracts for works above the US\$500,000 threshold equivalent and for goods above the US\$100,000 threshold equivalent will be subject to IDA's prior review procedures. The review process would cover about 80 percent of the total value of the amount contracted for goods, and 60 percent of the amount contracted for civil works (see Table B). Selective post-review of contracts awarded below the threshold level will apply to about one in three contracts and will be carried out by Bank staff using technical audits and other consultants, as deemed necessary.

The selection process for hiring consultants proposed by the Borrower will also be subject to Bank prior review. Prior review will include the review of budgets, Terms of Reference (TORs), short-lists, selection procedures, requests for proposals, evaluation reports, contract awards, and negotiated contracts. Prior review will not apply to contracts for the recruitment of consulting firms and individuals estimated to cost less than US\$100,000 and US\$50,000 equivalent, respectively. However, the exception to prior review will not apply to the TORs of such contracts, to single-source hiring, to assignments of a critical nature as determined by IDA, regardless of their value, or to amendments of contracts raising the contract value above the above-mentioned prior review thresholds. For consultant contracts estimated above US\$100,000, opening the financial envelopes will not take place prior to receiving the Bank's no-objection to the technical evaluation. Documents related to procurement below the prior review thresholds will be maintained by the borrowers for ex-post review by auditors and IDA supervision missions. For training abroad and in-country, the program, containing names of candidates, costs estimates, content of courses, periods of training and selection of training institutions, will be annually reviewed by IDA.

Table B: Thresholds for Procurement Methods and Prior Review¹

Expenditure Category	Contract Value Threshold (US\$ thousands)	Procurement Method	Contracts Subject to Prior Review (US\$ millions)
1. Works	C > 500,000	ICB	18.50
	C < 500,000	NCB	post review
	C < 50,000	3 Quotations	post review
2. Goods	C > 100,000	ICB	1.4
	C < 100,000	NCB	post review
	<50,000	National Shopping	post review
3. Services a. Firms	C > 100,000	QCBS/LCS	8.9
	C < 100,000	QCBS/LCS	post review
	C > 100,000	Individual	post review
	All	Single Source	
4. Miscellaneous Commercial Practices for the leasing entity a. Purchase of vehicles	C > or = 100,000	ICB	12.84

Total value of contracts subject to prior review: US\$41.64
 (or 60% of total procurement for the project)

Overall Procurement Risk Assessment

Average

Frequency of procurement supervision missions proposed: One every 6 months (includes special procurement supervision for post-review/audits)

Procurement Status of Ongoing Projects and Proposed Arrangements: National bidding procedures for public procurement in Senegal need to be improved. A draft procurement code was issued in 1997, but still needs to be approved. Under the previous IDA-financed operations, the sector gained substantial experience of Bank's procedures. An assessment of CETUD's current capacity has been carried out during appraisal, and strengthening needs has received special attention. Basically, CETUD will be reinforced through (i) the transfer of personnel who acquired experience by working in the previous project coordination unit; and (ii) the recruitment of qualified staff and ad hoc short-term consultant services, as required. CETUD will also benefit from the permanent support of a Contract Management Agency for management of civil works contracts, as well as support from annual technical audits.

A draft Manual of Procedures, including a procurement section, has been submitted and agreed upon during appraisal. Necessary revisions have been discussed and agreed upon.

During negotiations, the Government has agreed with IDA on (a) a draft procurement plan; (b) an updated version of the Manual of Procedures; (c) standard bidding documents to be used under NCB procedures for civil works and goods; and (d) a detailed recruitment and training plan. The Government also gave assurance that it will (a) use the Manual of Procedures; (b) use the Bank's Standard Bidding Documents for ICB, the Standard Request for Proposals for the selection of consultants, and the Standard Bid Evaluation reports; (c) apply the procurement procedures and arrangements outlined above; (d) update the procurement plan, indicating compliance with aggregate limits on specified methods of procurement, revised cost estimates for individual contracts and the total program, including best estimates of allowances for contingencies, as well as revised timing of estimated procurement actions. The Government also gave assurance at negotiations that it will take necessary measures to ensure that procurement phases do not exceed the following target time periods:

Procurement Phases Maximum number of weeks:

- Preparation of bidding documents:	4 (6 for large contracts)
- Preparation of bids by bidders:	4 (6-10 for ICB)
- Bid evaluation:	2 (4 for large contracts)
- Signature of contracts:	2
- Payments:	3

¹ Thresholds generally differ by country and project. Consult OD 11.04 "Review of Procurement Documentation" and contact the Regional Procurement Adviser for guidance.

Disbursement

Allocation of credit proceeds (Table C)

Table C: Allocation of Credit Proceeds

Expenditure Category	Amount in US\$million	Financing Percentage
Civil Works		90%
a) CETUD	15.00	
b) SNCS	7.38	
c) SNCS (safety)	8.46	
Goods/Equipment		90%
a) CETUD	1.00	
b) SNCS	0.67	
c) Public Transport vehicles	16.05	75%
Consultants' Services/Training		100%
a) CETUD	9.94	
b) SNCS	0.80	
c) LEASING	0.40	
Operating costs	0.61	85%
Refunding of PPF advance	0.55	100
Unallocated	9.20	
Total Project Costs	70.06	
Total	70.06	

Use of statements of expenditures (SOEs):

Disbursements will be made against statements of expenditure (SOEs) for expenditures for: (i) works under contracts costing less than US\$500,000 equivalent each; (ii) goods under contracts costing less than US\$100,000 equivalent each; (iii) services of consulting firms under contracts costing less than US\$100,000 equivalent each; and (iv) services of individual consultants under contracts costing less than US\$50,000 equivalent each; all under such terms and conditions as IDA shall specify by notice to the Borrower.

Special account:

In order to ensure that funds needed for project implementation are available in a timely manner, a Special Account, denominated in CFAF, will be opened at a commercial bank acceptable to IDA. The authorized ceiling of the special account will be CFAF 2,800,000,000. The initial amount deposited in the Special Account will be CFAF 1,400,000,000. The Special Account will be replenished each month, or as soon as the total disbursed from the account amount to one third of the initial deposit. The project will be able to request the second deposit (to reach the authorized ceiling) once a total of SDR 8,000,000 has been disbursed or committed

Annex 7: Project Processing Schedule
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

Project Schedule	Planned	Actual
Time taken to prepare the project (months)	13	13
First Bank mission (identification)	03/08/99	03/08/99
Appraisal mission departure	01/24/2000	01/31/2000
Negotiations	04/17/2000	04/17/2000
Planned Date of Effectiveness	09/15/2000	

Prepared by:

Office of the Prime Minister, Ministry of Equipment and Land Transport: Department of Land Transport and Department of Civil Works
Ministry of Economy, Finance and Plan, *Agence de Développement Municipal* (ADM)
Municipalities of Dakar, Pikine, Rufisque, Guédiawaye, Bargny, Thiès, and Kaolack

Preparation assistance:

Conseil Exécutif des Transports Urbains de Dakar (CETUD)

Bank staff who worked on the project included:

Name	Speciality
Patrick Bultynck, AFTU2	Task Team Leader, Urban Transport Specialist
Claude Sorel, AFTPS	Private Sector Development Specialist
Matar Fall, AFMSN	Senior Operations Officer
Paul Kriss, AFTIE	Economist
Karim-Jacques Budin, TWUTD	Principal Railways Specialist
Fanny Barrett, AFTU2	Program Assistant
Kishor Uperty, LEGAF	Senior Counsel
Wolfgang Chadab, LOAAF	Disbursement Officer
Bernard Abeille, AFTS2	Principal Procurement Specialist
Yves Prevost, AFTE1	Senior Environmental Specialist
Nina Chee, AFTE1	Environmental Specialist
Chantal Reliquet, WBIEN	Urban Specialist
Ahmadou M. Ndiaye, AFMSN	Financial Management Specialist
Connie Kok Shun, AFTU2	Senior Task Team Assistant
Majorie Kingston, AFTU2	Task Team Assistant
Quality Team	
Pedro Geraldes, AFTT2	Principal Transport Economist
Jean-Charles Crochet, ECSIN	Senior Urban Transport Specialist
Denise Vaudaine, AFTU2	Senior Municipal Specialist
Pushpa N. Schwartz, Consultant	Editor

Annex 8: Documents in the Project File*
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

A. Project Implementation Plan

Draft Project Implementation Manual

B. Cost of the Project and Program

Complete COSTAB tables

C. Studies and reports

- *Etude sur la restructuration globale des transports en commun, la capacité de payer et l'identification du réseau à concéder. Rapport définitif. Aout 1998*
- *Etude sur l'analyse des coûts de dysfonctionnements des transports en commun dans l'agglomération de Dakar. Rapport final. Octobre 1998*
- *Etude sur la qualité de l'air en milieu urbain de Dakar. Rapport final. Décembre 1998*
- *Initiative sur la Qualité de l'air dans les villes d'Afrique subsaharienne : séminaire de Dakar des 17 et 18 décembre 1998 : Transports urbains et qualité de l'air à Dakar. Compte rendu. SSATP Working Paper No. 38. Février 1999*
- *Etude sur l'assistance à la montée en charge du Fonds de Développement des Transports Urbains. Rapport provisoire. Juillet 1999*
- *Etude d'implantation des équipements des points d'arrêts sur les axes de transport en commun. Rapport provisoire. Septembre 1999*
- *Formation des intervenants dans le processus de réforme des transports urbains. Rapport final. Septembre 1999*
- *Campagne de sensibilisation sur la sécurité routière. Rapport semestriel de la phase II. Septembre 1999*
- *Etude d'évaluation d'investissements routiers de base pour l'amélioration de la mobilité urbaine à Dakar. Septembre 1999*
- *Etudes sur la qualité de l'air en milieu urbain : cas de Dakar et Ouagadougou. Rapports finaux. SSATP Working Paper No.41. Septembre 1999*
- *Etude portant sur l'informatisation et la décentralisation du fichier de l'offre de transport. Rapport provisoire. Octobre 1999*
- *Elaboration de cahier de charges définissant les normes techniques des véhicules de transports urbains. Rapport final octobre 1999*
- *Identification des mesures permettant l'analyse des performances. Phase II : situation à mi-parcours. Rapport provisoire. Octobre 1999*
- *Etude sur la capacité financière et comptable du CETUD. Décembre 1999*
- *Analyse juridique et financière du mécanisme de leasing. Décembre 1999*
- *Audit organisationnel du CETUD. Décembre 1999*
- *Restructuration des gares routières urbaines et interurbaines, y compris le transfert des fonctions interurbaines des gares de « Pompiers »et « Colobane » ; Rapport définitif. Décembre 1999*
- *Restructuration des gares urbaines de marchandises, y compris l'aménagement d'une gare routière de gros porteurs*
- *Etude sur la connaissance des sources de pollution et le niveau de contribution de chaque source identifiée à Dakar, définition d'un programme d'actions. Rapport final. Janvier 2000*
- *Aménagements des stations de Cars Rapides et de taxis. Rapport final. Janvier 2000*

- *Etude d'impact environnemental du projet d'amélioration de la mobilité urbaine à Dakar.
Rapport provisoire. Février 2000*

D. Others

- *Mission de préévaluation de l'IDA menée du 9 au 18 mars 1999: aide-mémoire de mission*
- *Lettre d'agrément du schéma de leasing pour le renouvellement des Cars Rapides signée à Dakar le 14 novembre 1999 par les quatre associations professionnelles les plus représentatives des Cars Rapides (transporteurs, chauffeurs, chauffeurs propriétaires)*
- *Procès-verbal des discussions tenues à Washington du 18 au 23 novembre 1999 entre la délégation sénégalaise conduite par S.E.M. Landing Sane, Ministre de l'Equipement et des Transports Terrestres et l'IDA relatives à la préparation du projet d'amélioration de la mobilité urbaine.*
- *Lettre du Ministre de l'Economie, des Finances et du Plan datée du 30 décembre 1999 et relative à la mise en concession à un opérateur privé de la ligne urbaine et suburbaine du chemin de fer*
- *Mission d'évaluation de l'IDA menée du 31 janvier au 11 février 2000 : aide-mémoire de la mission*
- *Mission de post-évaluation de l'IDA. Mars 2000. Aide-mémoire de mission*
- *Procès-verbal des négociations techniques tenues entre l'IDA et une délégation de l'Etat du Sénégal à Bruxelles du 20 au 24 mars 2000*

B. Bank Staff Assessments

C. Other

*Including electronic files

Annex 9: Statement of Loans and Credits
SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

Project ID	FY	Borrower	Purpose	Original Amount in US\$ Millions				Difference between expected and actual disbursements'	
				IBRD	IDA	Cancel.	Undisb.	Orig	Frm Rev'd
P051610	1998	Senegal	AG.EXPORT PROMOTION	0.00	18.20	0.00	1.58	3.74	3.77
P002367	1999	Senegal	AGR.SRCVES&PROD.ORG'S	0.00	12.50	0.00	4.05	4.68	2.78
P035615	1995	Senegal	COMM NUTRITION	0.00	100.00	0.00	56.51	65.32	60.53
P041567	1997	Senegal	ENDEMIC DISEASES	0.00	26.50	0.00	12.08	-0.93	0.00
P051357	1998	Senegal	ENERGY SEC. ADJ.	0.00	12.60	0.00	3.94	-2.41	0.00
P002373	1996	Senegal	HIGHER EDUC I	0.00	14.90	0.00	13.04	8.02	1.85
P002369	1998	Senegal	INTEGR.HEALTH S.DEV.	0.00	10.50	0.00	5.47	5.10	0.00
P057996	2000	Senegal	NAT.INFRA.PROGRAM	0.00	5.20	0.00	4.11	2.48	0.00
P035621	1996	Senegal	PILOT FEMALE LITERAC	0.00	6.60	0.00	3.03	2.61	0.00
P002376	1995	Senegal	PRIV.SCTR.CAP.BLDG	0.00	8.00	0.00	6.55	2.56	-0.28
P046648	1997	Senegal	REGIONAL POWER	0.00	100.00	0.00	74.63	73.95	0.00
P046768	1997	Senegal	SUST.PART.ENGY.MGMT.	0.00	50.00	0.00	37.94	17.84	0.00
P002366	1999	Senegal	TRANSPORT II	0.00	75.00	0.00	60.13	22.85	0.00
P002365	1998	Senegal	URB DEV'T & DECENT PRO	0.00	27.40	0.00	27.16	10.50	0.00
P044383	1997	Senegal	URBAN TRANS REFTA	0.00	90.00	0.00	82.94	-1.72	0.00
P002346	1995	Senegal	WATER SECTOR	0.00	28.50	0.00	27.57	0.00	0.00
P067498	2000	Senegal	Y2K NATIONAL ACTION PLAN	0.00	50.00	0.00	49.32	0.00	0.00
			SUPPORT PROJECT	0.00	10.15	0.00	10.08	3.21	0.00
Total:				0.00	646.05	0.00	480.13	217.80	68.65

SENEGAL
STATEMENT OF IFC's
Held and Disbursed Portfolio
February 29, 2000
In Millions US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1980	BHS	0.00	.46	0.00	0.00	0.00	.46	0.00	0.00
1994/96	SOGeca	0.00	.28	0.00	0.00	0.00	.28	0.00	0.00
1996/97/98	AEF SERT	.61	.43	0.00	0.00	.61	.43	0.00	0.00
1997	GTI DAKAR	12.30	1.61	0.00	10.21	6.15	1.03	0.00	7.42
1998	SEF SENTA	.27	0.00	0.00	0.00	0.27	0.00	0.00	0.00
Total Portfolio:		13.18	2.79	0.00	10.21	7.03	2.21	0.00	7.42

Note

AEF=Africa Enterprise Fund

BHS=Banque Habitat du Sénégal (financial); SOGECA = Société générale de crédit automobiles (financial)

SERT=Société d'exploitation des ressources thonnères (fishery); SEF SENTA = Small Enterprise Fund Sénégal Tanerie (leather);

GTI-DAKAR= Power project; TOLSA-Thiès = Mining operation in Thiès; CDS = Ciment de Sahel

FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic
1998	GTI DAKAR	13.11	.22	0.00	0.00
1998	TOLSA-THIES	3.00	.90	0.00	0.00
1998	CDS	13.50	2.35	2.35	0.00
Total Pending Commitment:		19.61	3.47	2.35	0.00

Annex 10: Country at a Glance

SENEGAL: URBAN MOBILITY IMPROVEMENT PROJECT

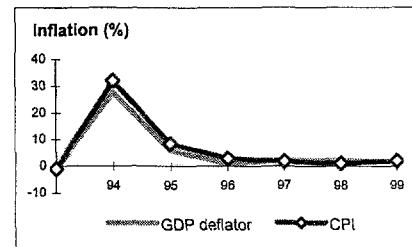
POVERTY and SOCIAL		Senegal	Sub-Saharan Africa	Low-income	Development diamond*	
1999						
Population, mid-year (millions)	9.3	628	3,515			
GNP per capita (Atlas method, US\$)	535	480	520			
GNP (Atlas method, US\$ billions)	5.0	304	1,844			
Average annual growth, 1993-99						
Population (%)	2.7	2.6	1.7			
Labor force (%)	..	2.6	1.9			
Most recent estimate (latest year available, 1993-99)						
Poverty (% of population below national poverty line)		..	..	
Urban population (% of total population)	45	33	31			
Life expectancy at birth (years)	52	51	63			
Infant mortality (per 1,000 live births)	..	91	69			
Child malnutrition (% of children under 5)	22	..	..	
Access to safe water (% of population)	51	47	74			
Illiteracy (% of population age 15+)	67	42	32			
Gross primary enrollment (% of school-age population)	66	77	108			
Male	71	84	113			
Female	57	69	103			
KEY ECONOMIC RATIOS and LONG-TERM TRENDS						
	1979	1989	1998	1999	Economic ratios*	
GDP (US\$ billions)	2.8	4.6	4.7	5.0	Trade	
Gross domestic investment/GDP	11.4	11.9	19.6	21.3	Domestic Savings	Investment
Exports of goods and services/GDP	30.9	26.7	33.3	32.4		
Gross domestic savings/GDP	2.4	6.4	14.9	14.4	Indebtedness	
Gross national savings/GDP	-2.2	2.3	15.3	14.2		
Current account balance/GDP	-15.1	-9.7	-6.2	-7.0		
Interest payments/GDP	1.8	3.2	1.9	1.7		
Total debt/GDP	40.8	70.7	71.0	65.5		
Total debt service,exports	15.2	26.6	9.7	9.0		
Present value of debt/GDP	..	..	43.1	42.2		
Present value of debt/exports	..	..	120.8	120.3		
	1979-89	1989-99	1998	1999	1999-03	
(average annual growth)						
GDP	2.9	3.0	5.7	5.1	4.8	
GNP per capita	-0.1	0.6	3.9	2.4	2.1	
Exports of goods and services	3.0	2.4	5.2	6.0	6.1	
STRUCTURE of the ECONOMY					Growth of investment and GDP (%)	
	1979	1989	1998	1999		
(% of GDP)					15	10
Agriculture	23.7	19.4	17.4	17.8	0	-5
Industry	15.0	18.8	24.1	25.3		
Manufacturing	10.4	13.3	15.8	16.7		
Services	61.4	61.9	58.5	56.9		
Private consumption	80.3	78.0	76.3	75.4		
General government consumption	17.3	15.6	10.3	10.2		
Imports of goods and services	40.0	32.1	38.0	39.3		
	1979-89	1989-99	1998	1999	Growth of exports and imports (%)	
(average annual growth)						
Agriculture	1.8	1.6	-1.7	6.1	15	10
Industry	4.2	4.3	8.8	7.7	0	-5
Manufacturing	4.6	2.6	7.6	4.8		
Services	3.0	3.1	7.1	3.9		
Private consumption	2.2	3.0	2.8	3.7		
General government consumption	3.4	-1.7	3.2	4.7		
Gross domestic investment	4.1	3.5	7.8	9.4		
Imports of goods and services	1.7	0.7	8.0	6.6		
Gross national product	2.8	3.4	6.7	5.1		

Note: 1999 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

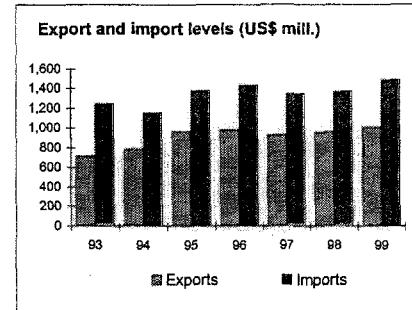
PRICES and GOVERNMENT FINANCE

	1979	1989	1998	1999
Domestic prices				
(% change)				
Consumer prices	9.7	0.4	1.1	2.0
Implicit GDP deflator	9.7	0.9	2.2	1.9
Government finance				
(% of GDP, includes current grants)				
Current revenue	18.4	17.8	17.3	17.1
Current budget balance	..	-0.1	5.8	5.0
Overall surplus/deficit	..	-2.9	-2.6	-4.0



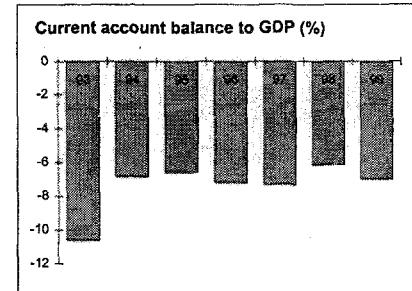
TRADE

	1979	1989	1998	1999
(US\$ millions)				
Total exports (fob)	478	759	965	1,017
Groundnut	..	150	54	56
Fish	..	70	25	31
Manufactures	..	167	265	281
Total imports (cif)	..	1,134	1,376	1,493
Food	..	334	311	325
Fuel and energy	..	155	179	193
Capital goods	..	173	211	245
Export price index (1995=100)	..	104	104	113
Import price index (1995=100)	..	83	94	99
Terms of trade (1995=100)	..	127	111	114



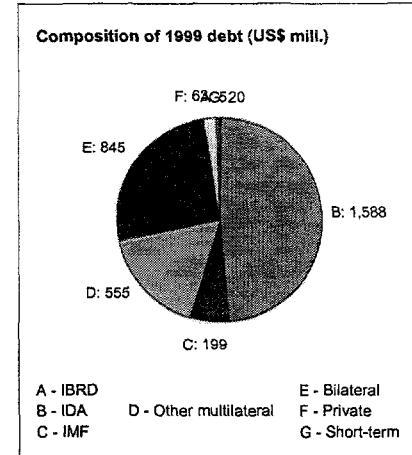
BALANCE of PAYMENTS

	1979	1989	1998	1999
(US\$ millions)				
Exports of goods and services	816	1,255	1,538	1,621
Imports of goods and services	1,104	1,514	1,844	1,965
Resource balance	-288	-260	-307	-344
Net income	-79	-205	-36	-39
Net current transfers	-48	16	53	31
Current account balance	-415	-448	-289	-352
Financing items (net)	265	543	312	426
Changes in net reserves	150	-95	-23	-74
Memo:				
Reserves including gold (US\$ millions)	34	31	426	486
Conversion rate (DEC, local/US\$)	212.7	319.0	590.0	591.6



EXTERNAL DEBT and RESOURCE FLOWS

	1979	1989	1998	1999
(US\$ millions)				
Total debt outstanding and disbursed	1,122	3,269	3,324	3,275
IBRD	41	94	9	5
IDA	88	592	1,448	1,588
Total debt service	135	359	163	158
IBRD	6	18	8	5
IDA	1	6	18	15
Composition of net resource flows				
Official grants	148	293	241	204
Official creditors	359	573	409	348
Private creditors	47	-51	-27	-28
Foreign direct investment	6	-15	7	169
Portfolio equity	0	-205	-36	-39
World Bank program				
Commitments	32	22	233	0
Disbursements	27	49	108	145
Principal repayments	3	11	16	19
Net flows	25	38	93	126
Interest payments	4	13	10	1
Net transfers	21	25	82	125



**Additional
Annex No.: 11**

Toward an Urban Mobility Charter

Performance indicators

Development Objectives:

To increase the safety, effectiveness, and environmental quality of urban mobility in the Dakar metropolitan area, with particular concern for the poorest communities. Both the sustainable development of public transport and the safety of pedestrians will be priorities in determining capital investments.

The main results expected from project implementation are:

- Sustainable improvements in traveling conditions for communities in the Dakar metropolitan area, especially with respect to public transport;
- An increase in this subsector's contribution to the growth and productivity of the urban economy;
- A substantial reduction in urban air pollution and in its adverse effects on economic growth;
- An improved quality of life for the inhabitants of Dakar's metropolitan area, achieved by increasing the efficiency and safety of the various modes of transportation.

Overall Framework for Performance Indicators:

In addition to preparing performance indicators, essential for measuring the progress made toward achieving the Project's objectives, it is intended to establish, over the medium term, ***an urban mobility charter*** that will link the main partners in urban transportation, including the users and the transportation operators. This charter would recognize the economic and social importance of urban transportation, and would specify the commitments entered into by each of the partner groups with respect to investments in improved operations.

The Project's development objectives will be achieved through a combination of capital investment, various activities, and institutional and regulatory measures that focus on the following specific objectives:

1. **Reduction of bottlenecks** in the Dakar metropolitan area by:
 - (a) Constructing and rehabilitating urban roads, with priority given to mass transit;
 - (b) Constructing and developing intercity road terminals on the outskirts of Dakar, so as to minimize/restrict the transportation of goods into the downtown area to the volume required for commercial purposes;
 - (c) Implementing traffic management measures, including giving priority to mass transit by providing bus lanes and establishing right of way for public transportation at intersections;
 - (d) Coordinating urban planning with a long-term focus, such as transportation, housing, and rational land use;

- (e) Establishing orders of priority for traffic corridors, in accordance with their functions;
- (f) Identifying the best ways of reducing the number of trips made, through a combination of measures such as staggering of peak hours and the introduction of a non-stop working day for the formal sector (e.g., government agencies and activities in the tertiary sector); and
- (g) Developing and upgrading suburban railway services to increase in their capacity and market share in mass transit supply.

2. Increase in the market shares of mass transit by:

- (a) Improving bus, minibus, and taxi service management;
- (b) Implementing a coordinated intermodal policy that will promote mass transit, exploit the optimum capabilities of each mode of transportation, and the synergies among them;
- (c) Developing and upgrading the suburban railway system, making it the backbone of urban public transportation in Dakar, so that eventually rail and road services can be coordinated and the necessary infrastructure can be constructed;
- (d) Constructing transfer terminals and interchange stations to facilitate safe transfer of passengers, both from one mode to another and within the same mode;
- (e) Improving access to certain districts of the city with which communications are currently difficult;
- (f) Organizing feeder routes, following the trends in transportation demand in various districts;
- (g) Introducing an integrated fare policy that would cover the various modes of mass transit; and
- (h) Enforcing right of way, easements, and land reserves in order to protect land from squatter settlements and allow for the effective planning of capital investments in urban infrastructure.

3. Relative reduction in the levels of urban traffic-generated pollution by:

- (a) Eliminating gradually the use of leaded gasoline and implementing tax policy that would encourage the use of cleaner fuels;
- (b) Initiating a program to test vehicles for toxic emissions;
- (c) Replacing old vehicles used for mass transit (*Cars Rapides*), supplemented by a program for renovating certain vehicles;
- (d) Introducing a strategy for managing air quality in urban areas;
- (e) Establishing a center for monitoring pollution indicators in urban areas;
- (f) Constructing and operating vehicle inspection centers and requiring that vehicles be regularly checked to ensure that they conform with stricter regulations governing toxic emissions;

- (g) Revising regulations on imports of pre-owned vehicles to ensure compliance with stricter rules governing technical standards for vehicles using public roads.
4. Reductions in the number and severity of accidents by:
- (a) Improving traffic management measures (including the construction of lay-by areas and stopping zones reserved for public transportation, and the installation of signs, traffic signals, and pavement marking);
 - (b) Conducting consciousness-raising campaigns among road users;
 - (c) Protecting non-motorized modes of transportation by means of traffic divisions;
 - (d) Constructing and upgrading sidewalks and other components of the road system to protect pedestrians from motorized vehicles;
 - (e) Installing speed bumps at critical places;
 - (f) Constructing pedestrian bridges over streets with high traffic densities; and
 - (g) Enforcing traffic laws and regulations strictly.
5. Increases in the capacity and efficiency of the urban street system by:
- (a) Designing appropriate urban streets and intersections, so as to eliminate black spots and provide for safe and coordinated mass transit flows and safe pedestrian movement;
 - (b) Improving access to certain districts of the city with which communications are currently difficult;
 - (c) Constructing fee-charging parking lots and increasing the number of park-and-ride lots bordering the downtown area; and
 - (d) Improving coordination among the main agencies concerned with street construction and maintenance and related services (e.g., sanitation).
6. Increased user participation in the preparation and implementation of programs to improve traveling conditions by:
- (a) Supporting the establishment of committees representing road users;
 - (b) Consulting with members of civil society on urban mobility issues;
 - (c) Implementing information, consciousness-raising, training programs for elected officials and road users on issues related to transportation and environmental management.

7. Increases in the financial capacity of the sector by:
 - (a) Strengthening the Urban Transportation Development Fund through measures including improvement in its rate of recovery and financial and management autonomy, as well as its system of supervision;
 - (b) Studying and implementing (depending on financial viability) a toll system on certain corridors.
8. Strengthening management expertise in the sector by:
 - (a) An enhanced role for the private sector in the provision of mass transit services, the construction and management of urban infrastructure (e.g., bus stations, vehicle inspection centers, and parking facilities), concessioning of the operation of the *Petit Train Bleu* to a private operator, and participation by small-scale local contractors in civil engineering projects;
 - (b) A support program to increase the awareness of the main actors in the sector, including operators of transportation systems, mechanics, and drivers, about environmental issues and as these relate to operations, planning, and management;
 - (c) A support program for agencies concerned with aspects of urban mobility and for operations of the CETUD;
 - (d) An performance evaluation (with methods and tools) to monitor regularly the quality of services provided and CETUD's operations.

Project Components:

The Project for improving mobility in the Dakar metropolitan area consists of the following five components :

- (1) Construction and rehabilitation of urban road infrastructure, with road safety and traffic management measures;
- (2) Measures to ensure the safety of pedestrians and other traffic along the suburban railway line;
- 3) Support for the establishment of a leasing mechanism for operators of mass transit services;
- (4) Adoption of an Urban Air Management Strategy; and
- (5) Strengthening expertise in the sector and providing institutional support to CETUD.

Performance Indicators: Objectives and Criteria

Objective	Criteria	Indicators 36 months after credit effectiveness	Indicators 48 months after credit effectiveness
1. Improve the quality of trips in the Dakar metropolitan area by promoting the use of public transport and assuring the safe movements of pedestrians through:			
1.A. Reductions in traffic congestion and duration of trips made by public transport	Increase in the commercial speed (in percentage terms) of public transport during peak hours on some strategic urban roads (*)	3%	10%
1. B. Saving in time taken on trips on some strategic urban roads	Reduction in the number of hours lost in traffic during working days on strategic roads (in percentage terms)	3%	5%
1. C. Increase in the market share of public transport	Increase in the number of passengers using public transport services during working days compared with the total number of trips (in percentage terms)	5%	10%
1.D. Decrease in the level of pollution generated by motorized transport	Decrease in the quantity (tons) of Co, Nox, and HC emissions	0.5%	1%
1. E. Reduction in the number and gravity of road accidents	Reduction in the number of injuries Reduction of the number of fatalities	2% 5%	2% 10%
2. Improve the financial capacity and contribution of the urban transport sector	Increase in the financial resources of the Urban Transport Development Fund (UTDF) (**)	60%	75%
3. Decrease in the direct and indirect costs of externalities generated by motorized transport in the Dakar metropolitan area	Reduction, in relative terms, in the costs of dysfunction (GDP) generated by motorized transport	5%	10%

(*) The strategic urban roads are :

- Avenue Cheikh Bamba between Avenue Bourguiba and Place de l'Obélisque
- Road between Rufisque and cross-road CAPA and cross-road Pikine;
- Avenue Blaise Diagne between Boulevard Gueule Tapée and Avenue Malick Sy;
- Route Front de terre between CAPA and the crossroad

(**) Compared with the reference point of FCFA 400 million in 2000, the objective is to reach FCFA 1,200 at the end of the Program in seven years.

**Additional
Annex No.: 12**

Financial Management Capacity Assessments

1. **Institutional arrangements and financial management:** CETUD will act as the implementing agency. The civil works component will be carried out by AGETIP or another qualified agency, under an agreement with CETUD. The SNCS will act as the implementing agency for Component 2 for ensuring the safe movement of pedestrians and other traffic along the suburban railway line.
2. CETUD will have overall responsibility for the program's financial management. One special account will be opened for the whole program. It will be managed by CETUD which will make all necessary disbursements for all the components. Because activities under Component 2 mainly consist of large contracts, it is not deemed necessary to open a specific special account and have a specific financial management system installed at SNCS for the accounting of activities implemented by it. Accounting of such activities will be carried out within the single program financial management system installed at CETUD and according to coordination mechanisms to be defined in the manual of procedures. It is noted, however, that SNCS will be required to submit the report on the audit of its annual financial statements not later than six months after the end of each year audited.
3. Given these arrangements, the financial management capacity assessments cover mainly the CETUD. However, besides CETUD, there are other financial management aspects, namely those related to the leasing mechanism under Component 3, that need to be considered in this assessment because of their importance to the success of the Project.

Financial Management Capacity Assessments

CETUD

4. The program's overall financial management will be the responsibility of CETUD, which is the executing agency for the on-going Urban Transport and Capacity Building (TA) Project. CETUD has gained familiarity with financial management of World Bank-financed projects which will be helpful for the financial management of the UMIP.
5. **Presentation of CETUD:** CETUD is a public institution created by Law #97-01 of February 24, 1997. The coincidence between its creation and the beginning of the TA Project causes some confusion between its dual function as a public institution and as an executing agency. CETUD's organizational structure (including the Plenary Assembly and the President) and its operations and functions are determined by Decree #97.356 of April 8, 1997. This decree defines the mandate of CETUD, the composition and the mandate of the Plenary Assembly, the mandate of the President, as well as CETUD's resources. Besides the President, the internal organization includes: (a) the Permanent Secretariat led by the Executive Secretary, who supervises a team of experts and reports to the President; and (b) the Accountant representing the Public Treasurer and nominated by the Ministry of Finance.
6. **Accounting system:** As a public establishment, CETUD is required by law to have its own accounting system that must adhere to the West African Accounting System (*Système Comptable Ouest Africain* or SYSCOA). As the Project executing agency, CETUD will have to keep separate accounts for

the Project activities. The accounting system of CETUD as a public establishment must allow the system to become sustainable, as CETUD will continue to exist beyond Project completion. The assessment of CETUD's accounting system must, therefore, consider this aspect.

7. CETUD's current accounting system is relatively weak. This situation raises questions about the reliability of the 1997 and 1998 financial statements. The auditor's reports on these financial statements were qualified due to the materiality of the audit findings including: (i) lack of an internal control system; (ii) non-assurance on the exhaustiveness and accuracy of the suppliers accounts balance; (iii) lack of control on the establishment of payment checks causing double payments or overstatement of the amounts to be paid; (iv) inaccuracy in the balance of "other debtors" and "remuneration due to employees" accounts which are unduly recorded as other accounts receivable for an amount of FCFA 29 million corresponding to funds misappropriated by the former accountant; (v) undue recording in the other liabilities account of funds received as cash; (vi) lack of Bank account reconciliation statement for the IDA PPF; and (vii) discrepancy between the balance and the cash ledger.

8. The accounting system is manual. The accounts are kept using manual ledgers and, at the end of the year, the financial statements are established by an accounting firm. Needless to say that the World Bank's minimum financial management requirements, defined in OP/BP 10.02, are not met under these conditions. The current system does not provide regular information on the on-going project's financial situation, for example by component and sub-component activity. However, a firm was selected to furnish and install a computerized financial management system using the LUCIE 2000 software. This software which operates in a WINDOWS environment was assessed and found globally satisfactory as far as CETUD's and the UMIP's financial management are concerned. LUCIE 2000 is an integrated software offering various modules including: general accounting, budgeting, cost accounting, stock monitoring, payroll system, human resources management, and sources of financing monitoring. The software is multi-station, multi-file, multi-currency and offers large varieties for customization. All operations related to a specific financier can be tracked by budget codes and expenditures categories through the sources of financing module. This module includes standard reports and can also be customized to generate other reports depending on the user's needs, such as the LACI models of financial statements.

9. Regarding foreign currencies, the operations of a given financier are monitored in the currency of the financier and in that of the borrower. And it is not possible to monitor the operations in a third currency that would be common to all financiers participating in the funding of the project. Hence, a project consolidated financial situation can be presented only in the currency of the borrower. It cannot be done for example in US dollars or any other currency different from that of the borrower. This situation limits the possibility to compare the project actual with the planed costs determined in US dollars (COSTAB).

10. Besides this shortfall in having a consolidated financial statement in a currency other than that of the borrower, the financial management needs of CETUD and the UMIP as well as the Bank's minimum requirements can be largely satisfied by the LUCIE 2000 software. The possibility of customizing financial statements (statement of sources and uses of funds, LACI model financial statements) specific to the UMIP was discussed and it was agreed with the software vendor that this will be done when the software is installed.

11. Other aspects essential in the LACI context, such as procurement and contract management as well

as physical progress monitoring, are not covered by the software. The possibilities of improving foreign currencies' monitoring of operations were discussed with the software vendor who confirmed that this is technically feasible. It was agreed that the software would be reviewed to take account of the above-mentioned comments, and additional developments would be carried out to include specific modules on procurement, contract management, and physical progress monitoring. To that end, CETUD would have to prepare specific terms of reference to be approved by the Bank and the software vendor would have approximately three months to make the necessary changes. These aspects are included in the financial management strengthening action plan below.

12. Manual of administrative accounting and financial procedures: CETUD did not have a manual of administrative accounting and financial procedures when it started its operation and activities under the on-going TA Project. This shortfall was corrected in September 1999 when a manual was developed by an accounting firm. The existing manual was not developed in view of the new project under preparation which explains that some of the UMIP needs were not taken into account. In addition, the procedures described in the manual are not being fully followed according to CETUD staff, who confirmed that there are some parts of the manual that need to be updated following the recommendations of the organizational audit report. The main findings and needs for improvement resulting from a thorough review of the manual are presented below.

13. As both an executing agency and an autonomous public establishment which will continue beyond the Project, CETUD must have procedures for its own internal operation and specific procedures addressing implementation of the Project activities. This dual need is not clearly defined in the existing manual of procedures for the following main reasons:

- The section on accounting presents mainly the accounting standards and recording schemes. It will have to be improved to include the following aspects: chart of accounts, cost-accounting and budget codes, accounts ledger, and financial statement format for CETUD and for the Project, including LACI financial statements.
- Regarding the operational procedures, the emphasis is on World Bank guidelines and do not take much into account the requirements of other donors participating in the Project financing.
- The coordination mechanisms between CETUD and other executing or contract management agencies are not covered in the manual. It would be necessary that these mechanisms and the flows of information be presented within the operational procedures to enable CETUD to play effectively its role as the agency responsible for the Project's overall financial management. This will ensure that all necessary financial information is transmitted from the other agencies to CETUD with a satisfactory level of reliability in order to obtain reliable financial statements for the Project.

14. Given the weaknesses noted above, the manual will need to be updated according to detailed terms of reference to be approved by the Bank. A revised version of the manual satisfactory to the Bank would be a condition of effectiveness.

15. Financial reporting: Given the status of the current financial management system, the quality of the financial reporting is not satisfactory. An annual budget is prepared by CETUD. It is broken into two main categories : Investment and Operating Expenses, each of which includes a list of activities to be financed. A

follow-up of the financial situation (commitments and disbursements) as well as physical progress of these activities is done. However, detailed analysis is done only at year end and periodic interim financial statements are not prepared. The annual financial statements included in the audit report consist of those required by the SYSCOA. They include a balance sheet, an income statement, and a cash-flow statement. The annual audit report does not include project-specific financial statements, such as a statement of sources and uses of funds. The project statement of sources and uses of funds would include all sources of financing regardless of origin and all uses of funds presented by expenditures categories and/or project activities. Hence, there is no assurance about the reliability of the financial situation of a project as presented by CETUD. In the context of the current Project, the SYSCOA models of financial statements as well as the project statement of sources and uses of funds are necessary to evaluate the financial situation of both CETUD as an autonomous public establishment and the project .

16. For the UMIP, two sets of financial statements should be required. The following yearly financial statements would be prepared:

- (i) CETUD's annual financial statements according to the models proposed by SYSCOA (*système normal*); and
- (ii) the Project's annual financial statements consisting of a statement of all sources of financing and uses of funds and a balance sheet.

17. Besides these annual financial statements, the accounts' software that will be put in place would be customized to generate automatically the LACI model financial statements at the end of each quarter. The other LACI statements and reports on procurement and physical progress monitoring would have to be included in the new modules to be developed in the software. These statements and reports would be submitted quarterly.

18. Auditing The financial statements of the Project will be audited for each fiscal year by an independent auditor acceptable to IDA and in accordance with standards on auditing also acceptable to IDA. Audit reports of reasonable scope and detail would be submitted to IDA within six months of the end of the audited period. The auditor will provide an opinion on:

- ♦ the Project financial statements (statement of Source and Application of Funds and Balance Sheet)
- ♦ the statement of expenditures (SOEs)
- ♦ the special account (SA).

19. In addition to the audit of the Project's financial statements mentioned above, the CETUD proper financial statements will also be audited for each fiscal year by an independent auditor acceptable to IDA and in accordance with standards on auditing also acceptable to IDA. Audit reports of reasonable scope and detail would be submitted to IDA within six months of the end of the audited period.

20. The auditor will also issue a separate management report on Internal Controls and operational procedures outlining any recommendations for improving internal accounting controls and operational procedures identified as a result of the financial statement audit.

21. The audit report will be submitted to IDA within six months after the end of each financial year.

The selection of an auditor acceptable to IDA for the Project and the Leasing Cooperative, according to terms of reference satisfactory to IDA, is a condition of effectiveness.

22. Accounting staffing : The accounting staff consists mainly of an Accountant. But some aspects of financial management, such as coordination of budget preparation and monitoring, are handled by the Economist. The Accountant holds a degree in Finance and Accounting. She joined CETUD one year ago and prior to that had worked two years in the Public Treasury in charge of the accounting at the Treasury. Prior to joining CETUD, the Accountant did not have any previous experience in financial management of World Bank-financed projects. She was trained in World Bank procurement guidelines, but did not receive any training on disbursement procedures.

23. Compared to the on-going project, the UMIP is much larger in terms of investment and the complexity of institutional arrangements, including an external executing agency (SNCS) and the leasing mechanism. To ensure sound financial management for the UMIP, it will be necessary to strengthen the staffing both in terms of number of staff and capacities. As recommended by the organizational audit, another accountant should be recruited. In addition, the current Accountant should be trained in disbursement procedures.

Leasing mechanism

24. Component 3 is to provide financial support for the development of a leasing mechanism necessary for the renovation and rehabilitation of mass transit vehicles. A leasing cooperative, fully owned by private operators of *Cars Rapides*, will be set up. It will receive 75 percent of the cost from the IDA credit and 25 percent from the private operators. These funds will be managed in accordance with the terms of a management contract by a professional private manager, selected through competitive bidding and remunerated in the form of a management fee.

25. A consultant report was prepared on the legal and financial aspects of the leasing mechanism. It indicates that the professional private manager will have the responsibility for administrative and financial management of the leasing mechanism in accordance with the terms of the management contract. At this stage, the emphasis should be put on the criteria for the selection of the private manager. Besides purely technical criteria, the private manager's financial situation, at the time of selection and during the life of the management contract, should also be considered through the private manager's annual financial statements, on one hand, and the leasing mechanism funds, on the other. Submission of such audit reports should be included in the financial covenant of the Development Credit Agreement (DCA). In addition, the private manager would be required to submit quarterly the financial situation of the leasing mechanism funds in accordance with a format and a content acceptable to the Bank. To that end, the management contract will have to be approved by Bank staff who will ensure that the above mentioned aspects are taken into account.

26. The leasing cooperative will be financed partly by the proceeds of the credit which will be ceded back in the form of a loan. The leasing cooperative should be financially viable and able to pay back the loan. The financial viability of the leasing cooperative would be determined by the financial situation that it would be obliged to present. This is all the more necessary to ensure sustainability, as the leasing cooperative is expected to pursue financing activities after the closure of the Project. Because of its legal status of an association, the leasing cooperative will have to keep its accounts according to the SYSCOA and to present at least a balance sheet and an income statement under the simplified system (*système allégé*

). As a condition of credit effectiveness, the leasing cooperative should have either put in place an accounting system commensurate with its scale and satisfactory to IDA or signed a contract with an accounting firm that will be in charge of its financial management, including keeping the accounts and preparing the annual financial statements. The leasing cooperative's financial statements should be audited annually and the audit report should be submitted to the IDA not later than six months after the end of each period audited. This requirement will be included in the DCA financial covenants.

27. Due to the legal status of the leasing cooperative as a financial institution, the private manager will need to: (i) prepare annual financial statements according to the West African Economic and Monetary Union banking sector accounting guidelines; and (ii) have these financial statements audited each year. Submission of the audit reports to IDA, not later than six months after the end of each financial year, will be required. This requirement will be included in the agreement to be signed with the private manager of the leasing mechanism.

Use of the PMR-based disbursement method

28. Based on the financial management assessment above and the financial management capacity strengthening action plan, it is expected that the computerized financial management system that will be put in place before credit effectiveness will enable CETUD to generate quarterly Project Management Reports (PMRs) based on the LACI models. However, the existing human resource capacities are weak and CETUD staff is not yet very familiar with the mechanisms of sound budget management which is a prerequisite for PMR-based disbursement. These factors might raise questions about the reliability of the LACI financial statements that will be prepared during the initial period of project implementation. In this context, it is recommended to begin with traditional disbursement arrangements through a Special Account and SOEs. However, CETUD will be required to submit quarterly PMRs right from the start of the Project. The first PMR will be reviewed to identify possible weaknesses and to make recommendations to improve the quality. It is expected that after 18 months of project implementation, CETUD's financial management capacities will be strengthened enough to prepare accurate PMRs. A new assessment of the financial management system will be done at the end of this 18-month period starting from date of effectiveness to propose the use of the PMR-based disbursement method or any strengthening action plan.

URBAN MOBILITY IMPROVEMENT PROJECT

METROPOLITAN AREA OF DAKAR

SENEGAL

17°30' 17°25' 17°20' 17°15'

IBRD 30877

NIGERIA

