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INTERNATIONAL

**A Study of Urban Transport Institutional,
Financial and Regulatory Frameworks in
Large Sub-Saharan African Cities**

Executive Summary

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Abbreviations

Abbreviation	Meaning
AATR	Agence Autonome des Travaux Routiers
ASI	Adam Smith International
BRT	Bus Rapid Transit
CETUD	Conseil Exécutif des Transports Urbains de Dakar
COSTU	Comité d'Organisation et de Suivi des Transports Urbains
DDD	Dakar Dem Dik (Dakar bus operator)
EC	European Commission
FCFA	Franc Communauté Financière Africaine
GDP	Gross Domestic Product
GIE	Groupement des Intérêts Economiques
GNI	Gross National Income
GoC	Government of Cameroun
GoK	Government of Kenya
GoS	Government of Senegal
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KUTIP	Kampala Urban Traffic Improvement Programme
KBS	Kenya Bus Services
LRT	Light Rail Transit
ODA	Official Development Assistance
PPP	Purchasing Power Parity
PSV	Public Service Vehicle
PTB	Petit Train Bleu (Dakar suburban rail service)
RAFU	Road Agency Formation Unit (Uganda)
SSATP	Sub-Saharan Africa Transport Policy Program
SOCATUR	(Douala private bus operator)
SOTUC	Société des Transports Urbains du Cameroun
SOTRAC	Société des Transports Communs (former Dakar bus operator)
TLB	Transport Licensing Board (Kenya and Uganda)
UTC	Uganda Transport Company
UTODA	Uganda Transport Operators and Drivers Association

Executive Summary

Study Objectives

The quality of public transport services in most sub-Saharan African cities is poor, mainly as a consequence of inadequate institutional, financial and regulatory arrangements. The objectives of this study were to review the urban transport systems in four large Sub-Saharan African cities, (Dakar, Douala, Kampala and Nairobi) and to draw general lessons that could be of value to other cities in the region. Specifically, the study was required to:

- develop a reformed bus policy framework;
- specify policy instruments to improve urban bus transport services for city residents, particularly the poor and disadvantaged;
- make recommendations on the institutional and financial arrangements suitable in different cultural and political environments;
- consider options for strengthening the legal and regulatory framework with the objective of encouraging competition;
- assess the conditions necessary to support bus rapid transit systems; and
- prepare a set of performance parameters and recommendations to strengthen the planning and monitoring capacity of city transport departments.

This Final Report also incorporates the results of workshops which were held in each city.

Requirements of a Well Performing Urban Transport Study

The following key characteristics of a well performing urban transport system have been identified in this report:

1. Affordability
2. Safety
3. Reasonable journey times
4. Quality of service
5. Environment
6. Satisfactory working conditions
7. Appropriate institutions to ensure sustainability, including
 - Generation of adequate financial resources
 - Operational efficiency
 - Effective enforcement of regulation
 - Monitoring of system performance

Current Performance of the Urban Transport System

All four cities are large, with populations of 2 to 3 million, and are growing rapidly. Income levels are modest, and the national governments of all four countries face severe financial constraints, that limit their ability to maintain and expand transport infrastructure.

Road Infrastructure

Congestion is a serious problem in all four cities, and the problems are exacerbated by poor quality roads and lack of effective traffic management. National governments are responsible for maintaining the national roads within the cities, while local government is responsible for the rest of the urban system. In Uganda roads are financed directly from the Ministry of Finance as part of the national budget, but in Senegal, Kenya and Cameroun there are Road Funds, all of which dedicate a proportion of the Fund to urban roads. However, the allocations are small, the urban authorities are short of money and urban road maintenance is seriously under-funded.

Failure to enforce parking controls and regulations prohibiting the use of sidewalks for commercial activities has led to significant reductions in road capacity in all the cities studied. Traffic discipline is poorly enforced. There are few efforts, as yet, to set up priorities for public transport at junctions.

Public Transport Services: the Informal Sector

The informal sector, consisting of large numbers of minibus, taxi and motorcycle operators, now dominates the provision of public transport in all four cities. Dakar, Kampala and Nairobi are served mainly by minibuses, ranging in size from 14 to 25 seats. In Douala, the minibus sector was effectively suppressed to protect the conventional bus operator, SOCATUR, and their place has been taken by shared taxis and motorcycle taxis.

The informal sector provides a generally dense and frequent service, but levels of comfort and safety are low, and the services are generally viewed as disorderly and unreliable.

The minibus and taxi drivers normally hire their vehicles from the owners, though there are still some owner-drivers. The drivers retain all fare income, and are responsible for fuel purchases. The owners are responsible for all maintenance work. In Douala and Dakar, the custom is for the day's work to be split between two drivers, each working around 8 hours, while in Nairobi and Kampala, there is normally only one driver, working a daily 12 hour shift.

In Douala and Dakar, there are official tariffs for the minibus and shared taxi services, but in practice fares are negotiated. In many cases, the fares charged are below the official rate. In Kampala and Nairobi, there are no fare controls, although in Kampala, UTODA, the operators' association, has set recommended fares for each route.

The growth of the motorcycle taxi services in Douala has been spurred by the very poor quality of the road system, as the motorcycles are much better able to negotiate the broken and potholed roads. Small capacity motorcycles (less than 100cc) are used, for which no driving licence is required. The vehicles are bought on hire purchase. Many of the drivers are young and inexperienced and accidents are common.

The minibus and taxi owners normally buy their vehicles second-hand and are able to finance the purchase with interest free loans from family or friends, or small loans from saving cooperatives. The payback period for second-hand vehicles is normally one to two years. Bank finance is not normally used, due to lack of acceptable security for the loans.

The industry appears to be financially self-sustaining in Douala, Dakar and Nairobi, as there is regular replacement of the fleet. However, there may be some over-capacity in Kampala, as some operators are finding it difficult to replace their vehicles. The motorcycle taxi industry in Douala appears to be financially sustainable, as the drivers report that they can complete the hire purchase of their motorcycles within one or two years.

In general, the informal sector operators appear to be unwilling to accept the costs and risks of large losses associate with buying new vehicles. There is also some evidence that

the payback period for new vehicles is longer than for second-hand vehicles and that the operators have problems raising the deposits for their purchase.

Public Transport Services: Conventional Bus Companies

Conventional companies, operating big buses (40 to 60 seats) now only play a small part in the public transport system. In Douala and Dakar, the original state owned companies failed, partly due to fare controls that limited their ability to maintain and replace their fleets. Their place has been taken by private companies, (SOCATUR in Douala and DDD in Dakar). Until recently neither of them was able to operate a full service and both were facing severe financial difficulties. However, the Government of Senegal has recently acquired over 400 new buses, through Indian and Swedish ODA, which are being run DDD. DDD receives a subsidy from the national government, though SOCATUR does not. The big bus operator in Nairobi, the Bus Track division of Kenya Bus Services, is currently able to cover running costs, but is not earning enough to replace its vehicles.

Public Transport Services: Rail

In Dakar, the Petit Train Bleu (PTB) operates 19 trains per day between the port area and the satellite town of Rufisque. Currently, the train provides less than 2% of total urban transport services, but it is planned to expand the service and increase track capacity. Kenya Railways operates a small-scale suburban rail service. Neither service is profitable.

Regulation of Public Transport

In Kampala, the licensing authority, the Transport Licensing Board (TLB), makes no attempt to limit the number of bus or taxi operators, to impose a route structure or to allocate routes. In Nairobi, in principle, the TLB allocates routes and limits the number of operators serving that route. However, in both countries, any operator with a suitable vehicle can obtain a licence and then determine which route to operate and what fare to charge. In practice, the operators' associations appear to control the allocation of routes and have some influence over the fares charged.

In Douala, the Ministry of Transport has assigned 15 routes to SOCATUR (of which the company is able to operate only 9). No attempt is made to impose a route structure on the shared taxis.

Dakar is the only city studied that has attempted to impose a route structure on the informal sector, using routes defined by local legislation from the 1970s. At present, route allocation to operators appears to be controlled by the syndicates. However, the Conseil Exécutif des Transports Urbains de Dakar (CETUD) is attempting to devise a new route structure and to allocate routes to newly formed Groupements d'Intérêts Economiques (GIE), which combine the activities of formerly independent private operators. The proposal has proved very slow to implement (it started in 1998), partly because of the difficulty of bringing the independent operators together, and partly because it was tied to an unpopular proposal to tie the allocation of routes to the purchase of new Tata minibuses. However, 13 GIE have now been formed and 6 of them have agreed to take on the first tranche of 105 new Tata midibuses. Concession agreements are currently being negotiated with the 6 pioneers, and it is hoped that the other GIE will also join the programme soon.

Regulatory Enforcement

All the cities visited have regulations requiring regular inspections of public service vehicles (PSV). However, it is clear that inspection is, at best, casual, and many vehicles are visibly in poor condition.

Many minibus operators regularly overload their vehicles, which not only reduces passenger comfort, but is potentially unsafe. New regulations have recently been

introduced and enforced in Nairobi, with serious political support, which have effectively eliminated overloading.

Current System Performance

When judged against the seven criteria of a well performing urban transport system, the current systems in the four cities can be seen to be performing only moderately well.

1. **Affordability:** many potential passengers cannot afford to use public transport and are forced to walk long distances to work.
2. **Safety:** driver behaviour is criticized as erratic and unsafe and many vehicles are not roadworthy.
3. **Reasonable Journey Times:** congestion makes journey times slow, while the radial structure of the route system means that passengers are often forced to make an unreasonable number of transfers.
4. **Quality of Service:** passengers expressed great dissatisfaction with the quality of service, both in terms of passenger comfort and driver discipline.
5. **Environment:** pollution from vehicle exhausts is visible in all four cities and constitutes a significant health risk to the urban population.
6. **Satisfactory Working Conditions:** drivers in East Africa work long hours, which is potentially unsafe for both them and their passengers. The problem in West Africa appears to be less acute.
7. **Sustainability:**
 - the informal sector appears to be financially self-sustaining, except in Kampala, albeit with low quality, second-hand vehicles. The conventional big bus companies, however, are unable to replace their fleets.
 - institutional arrangements are failing to promote an orderly or efficient transport system; efforts at reform in Dakar have proved very slow to implement.
 - Enforcement of existing regulations is lax, and little effort is made to monitor system performance.

The box on the following page summarizes some of the lessons learned from the investigations in the four cities

Options for Change

The options for change fall naturally into those relating to infrastructure provision and management, route structure and allocation and the regulation and management of the public transport system.

Infrastructure Provision

In the short term, there is an urgent need to improve the quality of the urban road system, in order to reduce vehicle operating costs and to reduce congestion. In particular, there is an urgent need for road rehabilitation in Douala, and a general requirement to improve the quality of road maintenance in all four cities. This will require a coordinated effort from national and local government. It will also require that urban areas are given a larger share of the nationally generated road funds, more consistent with the proportion of traffic activity which takes place in urban areas.

Some Lessons Learned

Importance of Infrastructure

Poor quality roads and lack of capacity reduce vehicle speeds, increase vehicle operating costs and reduce the productivity of urban public transport. Funding for urban road maintenance needs to be increased, as current allocations do not reflect the share of urban transport in the national road system.

Need to Enforce Existing Regulations

Lack of effective control on parking and commercial activities on sidewalks reduces the capacity of the urban road network, puts pedestrians in danger and causes congestion. Consistent efforts to enforce existing regulations can greatly ease traffic. Recent experience in Nairobi shows that, with political will, effective enforcement is possible.

Long-Term Dangers of Fare Controls

Government imposed controls on fares rarely keep pace with cost increases. The consequent drain on bus company finances mean that vehicles cannot be maintained or replaced, and service quality deteriorates.

Role of the Informal Sector

The informal sector is the main provider of public transport in all the cities studied. It is admittedly disorderly, but is also flexible, efficient and very resilient, and is a great generator of employment. Efforts to suppress the informal sector are likely to be ineffective and Governments will have to work with (and not against) the informal sector, if they wish to improve the quality of public transport.

Consolidation of Small Informal Sector Operators

The development of a more orderly public transport system, with published fares, regular services and guaranteed service quality, will require the consolidation of small independent operators into companies or cooperatives, as is being done by CETUD in Dakar at present. However, the independent operators are often reluctant to consolidate, and will require a mix of compulsion and incentives. It is still too early to say how successful the CETUD experiment will be.

Big Buses

Big buses are, in principle, more efficient than small ones, and their use should be encouraged. They will be effective on high volume, uncongested, routes, where high productivity can be achieved. They may require protection from competition from minibuses.

Financing New Minibuses

The informal sector has no problems funding the purchase of second-hand vehicles, and payback periods are short. Payback periods for new vehicles are longer and the risks are higher. Consolidation of independent owners into larger groups would help spread risks; formal franchising agreements would provide more secure streams of future income, and could help facilitate bank finance.

Monitoring

Basic statistics on transport system performance are not collected. Until they are, it will be impossible to assess the current situation, or to establish whether it is improving or deteriorating.

In the medium term, the capacity of the urban transport system can be increased through small-scale widening and junction improvements, together with the building of bypasses in anticipation of urban expansion, while costs can be kept low. Improved pedestrian facilities will also help reduce accidents. In the longer term, consideration can be given to bus rapid transit and light rail transit systems, though these are likely to be expensive solutions to urban transport problems.

Passenger journeys can be made more convenient the provision of additional bus terminals. The bus parks should be run by companies independent of the operators, to avoid conflicts of interests or abuse of power by the operator associations (as occurs in Kampala).

Traffic Management

In the short term, effective enforcement of existing regulations on parking and the use of sidewalks for commercial activity can make a significant improvement to traffic flow. In the medium term, improving junction design and the introduction of bus lanes and bus priorities at traffic lights can be introduced and will help reduce public transport journey times. In the long-term, consideration can be given to introducing road charging, though such schemes are complex, need careful planning and can be expensive to operate.

Route Structure and Allocation of Routes to Operators

The public transport route structure can be developed in a number of ways. The current procedure in all four countries is, in effect, to let the operators determine which routes should be provided. This is an appropriate response when there are large numbers of small operators, when the regulatory authority wishes to encourage competition and where enforcement capacity is limited. However, it has the disadvantages that low volume routes may not get any service; that it is difficult to impose service quality conditions; and that control will tend to pass to operator cartels.

An alternative is for the licensing authority to determine the route structure, either as an organic development of current practice or as the result of a formal planning exercise, or in response to operator proposals. This is the procedure which CETUD is now gradually implementing in Dakar and could be followed in the other cities.

The authority could then grant exclusive licences, or franchises, in return for agreements on service quality and fare levels. (The licensing authority would then have to ensure that the exclusivity was enforced.) This approach would work best if the currently large numbers of independent operators could be grouped into a smaller number of formal companies, or cooperatives, though this can a drawn out process, as CETUD's experience has shown. Where this was not possible, it would still be possible to grant route licences to a number of independent operators, who would then be encouraged to form operator associations, which could in time, develop into formal companies.

Alternatively, the licensing authorities could award route licences or franchises through an open bidding process. Licences could be awarded either to the operator that offered the highest payment (or lowest subsidy) to the authority, or on the basis of the minimum fare level for a given quality of service. Licences or franchises could be re-tendered every few years, to give the operators a strong incentive to maintain the quality and efficiency of their services.

Any attempt to move towards a more formal route structure will require substantial efforts at institutional strengthening of the licensing authority, to design the new route structure and to enforce and monitor its implementation.

Regulation of Fares

Efforts to control fares at a level judged affordable for most passengers have, in the past, meant that the operators could not afford to replace or maintain their fleets, to the long-

run detriment of the travelling public, as evidenced by the breakdown of conventional services in Douala and Dakar. Subsidies are difficult for the local or national governments to sustain. Controlling fares at a break-even level, where operators are guaranteed a set profit level, which is currently being attempted in Dakar, can remove incentives to operate efficiently. Some of these problems can be overcome if fares are set as part of an open bidding process and the routes are re-tendered on a regular basis, to ensure that fares are set competitively and there is a chance to adjust to changed conditions at re-tendering.

Service Quality Improvements

There is a clear need to improve the quality of vehicle inspections in all four cities, to ensure that all PSVs are roadworthy, though it has to be recognized that this may increase operating costs, with a consequent increase in fares. Closer regulation of operator practice could also help improve quality of service through enforcing route discipline and ensuring that vehicles provided a minimum standard of cleanliness and comfort.

Improving the operation of the bus terminals, in particular in Kampala, through reducing internal congestion and setting up systems for the regular and orderly dispatch of vehicles could help reduce operator costs and improve the regularity of service to passengers. This would require the cooperation of the operators' associations.

Efficiency Measures

The introduction of new minibuses should, in principle, reduce the long-run costs of providing urban transport, though there is some evidence that payback periods are longer than for second-hand vehicles. Operators also appear to be rather risk averse. There seems to be little case for the authorities attempting to second guess the commercial judgement of the operators, though the encouragement of premium services, using new vehicles to provide a better quality of service, at a higher price, could be encouraged. Further, a more stringent approach to vehicle inspections would raise the cost of maintaining older vehicles, and give operators an incentive to purchase new vehicles.

There is clear evidence that the introduction of large buses (60 seats or more) would result in a significant reduction in costs, at least on the high volume routes. However, small-scale independent operators are unlikely to make this level of investment, as it involves significant overhead in operation and maintenance. The recent experience of the big bus operators has not been encouraging and it seems likely that new big buses will only be introduced if the independent operators start to combine into larger units. This may occur in the context of the development strategy proposed below.

Environment

The regular vehicle inspections could be extended to cover checks for exhaust emissions. This would be likely to be costly and may have to be phased in slowly. The introduction of lead-free and low sulphur fuels will also help reduce the health hazards of vehicle emissions.

Improvement Strategies

Improvement of the urban transport system will require a phased programme of changes. Some improvements can be undertaken immediately, while others can be undertaken in the medium term, but with limited changes to the current institutional arrangements. In the medium term, it will be necessary to work towards a gradual consolidation of the informal sector operators into small or medium sized enterprises. More radical institutional restructuring will require legislation, will require additional funding and technical support, and so should be envisaged as a longer-term option.

Short-term Measures

Short-term enforcement measures in traffic management, such as parking control and reducing the use of sidewalks for commercial activities could make a significant difference to traffic flow, thus increasing the productivity of the bus fleet. Overloading controls would increase passenger comfort and safety, though at some cost to operators and eventually passengers. A serious effort to ensure that all vehicles were regularly inspected and brought to a minimum roadworthiness standard would do much to increase safety and improve passenger comfort.

Funding for urban road maintenance could be increased to prevent further deterioration of the road network.

Medium-term Measures

In the medium term, further traffic management measures can be introduced, including better junction design, the introduction of bus lanes and bus priority measures at traffic lights. These measures are relatively inexpensive.

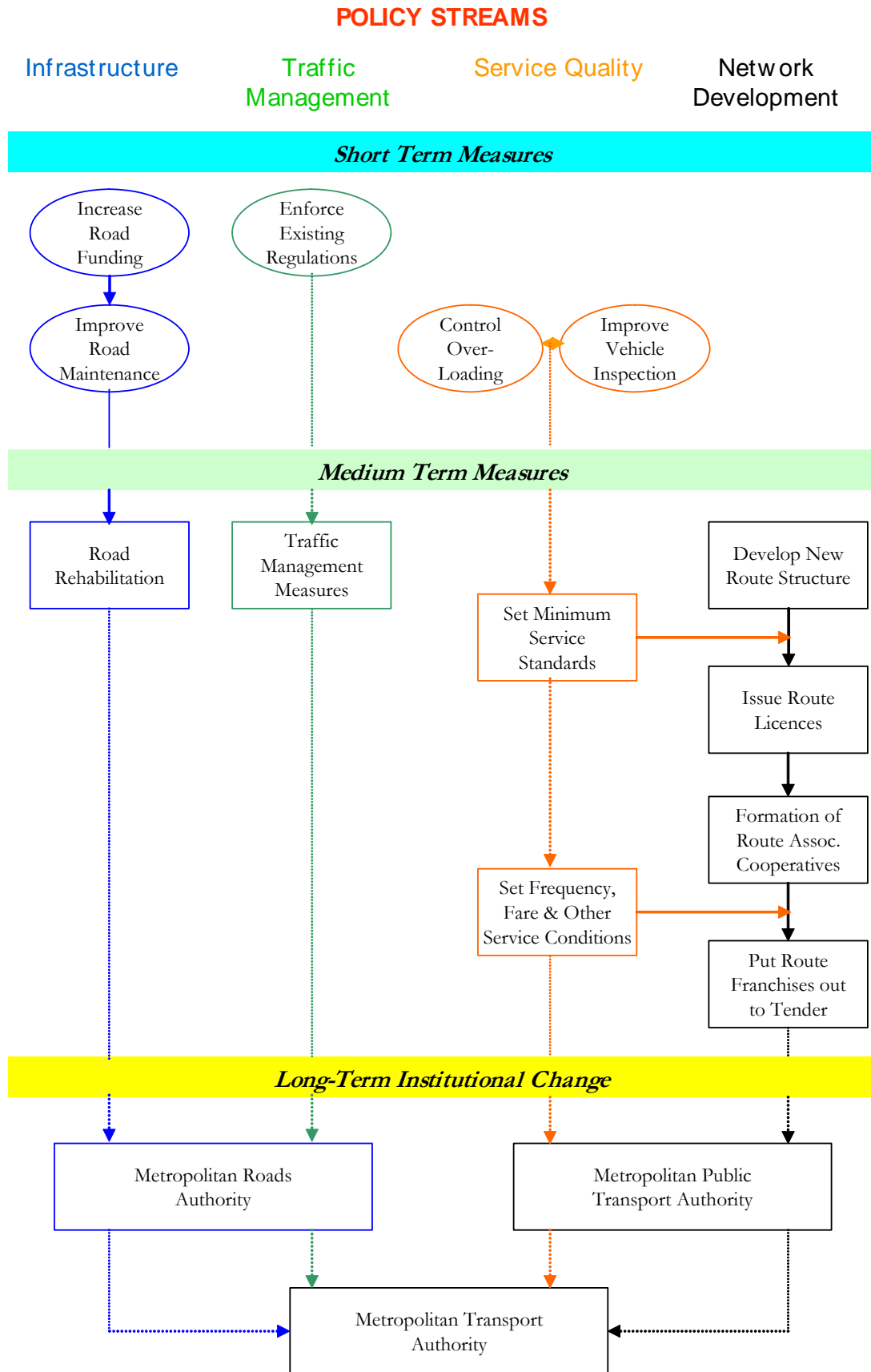
Repair and rehabilitation of the road networks, though likely to be very expensive, will prove both economically worthwhile and will significantly reduce urban congestion.

A staged programme for the introduction of a formal route structure and licensing system could be undertaken, as follows:

- Initially, the licensing authorities would allocate route licences to any qualified operator, with the following conditions:
 - The operator would be restricted to the licensed route
 - Minimum standards of comfort and cleanliness would be imposed
 - Operators could set their own fares and determine the frequency of service
 - Licences would be renewable after (say) 3 years
 - Operators would be encouraged to form route associations, with whom the licensing authorities could negotiate on questions of service quality, frequency etc.
 - Route associations could be encouraged to incorporate
 - At the first or second route licence renewals, the licensing authorities could introduce a formal open bidding process on a selection of routes, giving a route monopoly to a properly constituted enterprise, able to guarantee given frequency and service qualities. Routes could be allocated on the basis of payments to the licensing authority or to the operator offering the lowest fare.

This system could be introduced flexibly and would encourage the formalization of the informal sector. In particular, a core network, with fixed routes, could be combined with area licensing in peripheral areas, where the informal sector could provide feeder services to the main routes. The regular reallocation of licences following an open bidding process would help keep the sector responsive to passenger needs and economically efficient. The introduction of these systems would require a major effort to strengthen the licensing authorities.

Figure 1: Proposed Improvement Strategy



Longer-term Measures

The successful long-term development of the urban transport system will need the effective cooperation of a number of different agencies. Much can be done within the existing framework, but it may well prove difficult to get the necessary coordination without the creation of a formal coordination agency. Consideration could therefore be given to setting up:

- Metropolitan Road Authority, responsible for the long-term planning and development of the urban road network. It would also take responsibility for road maintenance, traffic management and the promotion of public transport, in cooperation with the licensing authorities.
- Metropolitan Public Transport Authority, with overall responsibility for the development of the public transport system. It would design an appropriate route structure and have the power to license and regulate operators, and would also be responsible for developing rail based systems and bus rapid transit systems, where appropriate and in cooperation with the appropriate road and urban planning authorities.
- Metropolitan Transport Authority, which would combine the functions of the Road and Public Transport Authority.

The workshops demonstrated that there was a strong feeling that the current administration of the urban transport system ignored the interests of local stakeholders and users. It would therefore be reasonable to ensure local representation, possibly through the local authority, on the boards of these Authorities, should they be formed.

Performance Indicators and Urban Transport Database Requirements

A set of indicators has been developed to measure the progress of the transport system against the criteria set out above. In addition, a more general database of statistics relevant to urban transport has been indicated. It should be noted that, at present, very little of this information is available, and the licensing and other authorities will require substantial strengthening of their data collection capabilities if this information is to be available on a regular basis.

Next Steps

Following the programme of reform set out here will require high level political commitment, which cannot be imposed from outside. A first step in generating such commitment is that the SSATP representatives bring the findings of this Study to the attention of the key policymakers.

The reform process can be further encouraged and facilitated through the SSATP programme, by proposing studies which can be used springboards for further action. Three areas that merit attention are:

- Identification of short-term traffic management measures (mainly enforcement of existing regulations) that can reduce congestion and ease public transport flows. This should be done in all four study cities.
- Technical assistance to licensing authorities to set up new public transport route networks. This should be done as a matter of urgency in Douala, before the public transport concessions are renewed. It should also be done in the near future in Kampala and Nairobi.
- Design of model concession agreements, which would be of value to all SSATP cities.