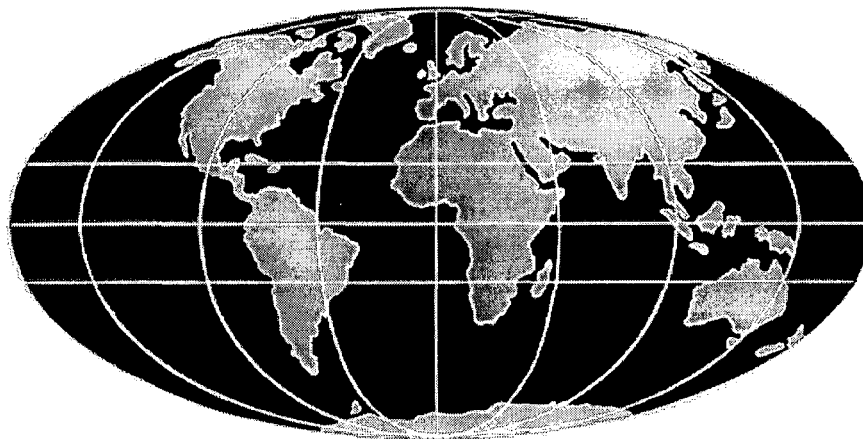


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Urban transport services in Sub-Saharan Africa: Recommendations for reform in Uganda

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ABSTRACT

Research has shown that there are very large differences in the availability and costs of transport between Africa and Asia (1). Africa is at a considerable disadvantage in all respects. Development funds to date have been almost exclusively used for infrastructure yet there is huge potential for cost savings from an improvement in vehicle efficiency. The provision of transport services has been left to the market but the market has not been working effectively. High transport costs and unreliable service provision have a significant impact on industry and on the mobility of people.

This paper describes the results of research carried out on urban transport services in Uganda. To understand the transport market and its operations bus surveys and interviews were carried out with the main stakeholders in the capital city and two rural towns.

The paper identifies the major problems faced by transport operators and analyses their impact on vehicle operating costs. It also examines transport regulations and the current organisation of transport services and their impact on vehicle utilisation. The key areas highlighted for concern include anti-competitive practise by the associations, which control service provision and absence of transport planning and regulation.

Finally, recommendations to improve vehicle operations are made, which range from long term policy, institutional reforms (including legislative changes, vehicle import regulation, and setting up of a transport regulator body and Private Public Partnership arrangements) to shorter term initiatives addressing issues such as vehicle financing, driver training and safety.

BACKGROUND TO TRANSPORT SECTOR

In Uganda, road transport is the dominant mode for most freight and for all passenger traffic. The share of rail transport has decreased in the past five years due to poor track condition and unreliable rail operations. The vehicle fleet is estimated at around 123,000 vehicles in 1999, excluding motorcycles is essentially made up of passenger vehicles (90%) and 10% of goods vehicles. Mini-buses and Large buses represent respectively 14% and less than 1% of the total vehicle fleet in Uganda (2).

Following the transport deregulation policy in 1990s and with the current improvement in the road network, road transport has increased significantly in Uganda. The number of new vehicle registrations increased two folds between 1993 and 1994 and the growth in vehicle ownership (including motorcycles) was 22% per annum during the 1995-1998 period. The average vehicle ownership is about 8 vehicles per 1,000 of the population but half of the traffic in vehicle kilometres is concentrated within Kampala and the Central region.

There are around 4,000 minibuses, which account for 70% of road usage in Kampala (3). Mini-buses operate from five parks. The Old and New taxi parks are the main bus parks and provide both urban and inter-urban services to over 94 stage routes. Minibus parks handle both the 14-seater and 29-seater vehicles. Most parks are in bad condition (full of potholes). The parks operate above their saturation level, leading to long queues of vehicles waiting to get in and out during peak hours. Most parks are located on the roadside raising congestion and safety concerns.

Kampala City has also another inter-urban bus park (Buganda) which exclusively handles inter-urban travel with one international route to Kigali (Rwanda) using large buses. The park, which was built in the 1950's handles about 200 large buses per day is congested and lacks basic facilities like toilets and waiting bays. The usage of Buganda park is contracted out by Kampala City Council to the Uganda Bus Operators Association, UBOA. There are also three other buses terminals in the city, which are exclusively for international services to Nairobi and Dar-Es-Salaam.

TRANSPORT OPERATIONS; THE SURVEY'S MAIN RESULTS

To understand the transport market and its operations, interviews were carried out with the main stakeholders (Associations, Ministry, and Operators). A sample survey was also carried out which covered 52 mini-buses. Bus surveys were completed in Kampala City and in rural towns of Fortportal and Buwenge.

Vehicle characteristics

The surveys main results are shown in Table 1. The average age of mini-buses is relatively high (13 years). The current value of mini-buses is relatively low, 3,000 US\$ on average. For this reason, mini-buses are mainly the property of private individuals (90%).

Assuming a serviceability rate (availability) of 85%, the average vehicle utilisation per year for mini-buses is 35,000km but the coefficient of variation is relatively high, 65%. This could indicate that some operators may benefit from current organisation of the market and perform relatively well partly because of relatively high fare level charged and partly because of running the most profitable routes. Many operators however can not sustain their business because of low mileage, which they attribute to "lot of competition" but meaning an oversupply of vehicles.

Although the size of the survey sample is small, there is every reason to believe that the results are broadly representative of vehicle characteristics of Uganda. The survey's results converge with information given in the National Transport Data Base (2), which show that 9 out of 10 of new registrations are used vehicles and there is no age limit on vehicle imports.

HIGHT UNIT PRICES OF VEHICLE OPERATION INPUTS

It is not surprising that the main problems mentioned during the bus survey were high operating costs. Most spare parts are imported and excise duties and petrol taxes are high. Additional costs such as association membership and loading fees for using bus parks are also mentioned to be a source of problems. Other problems identified were high accident risks (safety), bad driver behaviour, government intervention (police), "excessive competition" and the bad condition of the roads.

High fuel taxes

The survey results show that the main problem faced by minibus operators was high vehicle operating costs. Petrol and diesel prices are respectively 1,470 Ugandan Shillings and 1,270 UgSh per litre, which is equivalent to 0.82 US\$ and 0.71 US\$ converted at the exchange rate of 1 US\$=1,800 UgSh (in 2001 prices). Although excise duty on petrol and diesel were recently reduced to respectively 47% and 39% of pump prices (1999), fuel prices in Uganda are still significantly higher than neighbouring countries. They are 30% higher than the prevailing prices in Kenya and Tanzania

High import duties

Vehicle Operating Costs are a function of unit prices of vehicle operation inputs and since taxes constitute a relatively large proportion of unit costs, their reduction has a direct impact on average vehicle operating costs. In Uganda, vehicle import duty varies from 21% to 31% depending on the size of engine and vehicle type. Total taxes amount to around 38 to 48% including 17% VAT.

The Uganda Motor Industry Association (franchised vehicle dealers) submits a yearly tax proposal to the Ministry of finance aiming to reduce the taxes levied but they have not been successful. As there is no age limit on vehicle imports, most imports are therefore second hand vehicles. In 1999, ninety percent (90%) of new registrations were used vehicles and only ten percent (10%) were brand new vehicles of which half were imported by government services.

Vehicle financing

Survey results show that access to finance to purchase vehicles is only possible for established transport companies. The initial capital required for new large buses is high and is therefore more difficult to raise. The main bus companies, a few members of UBOA and a few truck operators turn to financial institutions (banks and a leasing company). But, most operators finance their vehicles using traditional channels through down payment or the "work and pay" system, which predominates among mini-buses.

In Uganda, there is only one leasing company. Although the requirements on the guarantee risks are less than the banks, the leasing company has financed only 500 commercial vehicles so far. The company deals mainly with properly established business (companies and professional partnerships), which can practically demonstrate the cash flow ability to make equipment rental payments on time. The payment terms depend on vehicle conditions (brand-new or second hand). A cash guarantee (security deposit) of 15% to 20% and equal monthly payments at 22% interest rate over a lease period of 5 years is required to purchase new vehicles. For used vehicles, the deposit is higher (30%) and the monthly payments are over shorter periods of 2 to 3 years. The company indirectly sets an age limit for vehicle imports since it verifies the conditions of each vehicle and reliability of its supplier before placing an order.

Safety issues

Traffic Safety has been identified in a recently concluded study (4) as a major risk factor hampering efficient transport services in Uganda.

Uganda has a high accident rate of 160 fatalities per 10,000 vehicles, one of the highest in Africa. Based on average cost per vehicle damaged of US\$ 2,290, average fatality cost of US\$ 8,600 and an injury costs of US\$ 1,933, road accidents cost the Ugandan economy US\$ 101 million per year, which represents 2.3% of the country's GNP.

The leading cause of accidents in the country is poor driver behaviour. Drivers do not hold carriers' driving permits and most of them train on the job. Moreover, drivers daily wages often represent the differential between vehicle owners expected daily revenues and any additional amount generated after deducting fuel costs, police fines and brokers and parking fees. Therefore, to maximise their daily wages, drivers tend to speed and overload their vehicles in order to make additional trips regardless of passenger safety and traffic regulations.

Other causes of accidents are the low level of safety awareness, poorly equipped elementary driving schools, absence of a driving syllabus and lack of mass safety campaigns. The Government has attempted to address the traffic safety problem and has addressed the legal framework gap. It has enacted a new Traffic and Road Safety Act in 1998. However, the recent withdrawal of traffic police from roads has created concerns about the effective implementation of the law.

TRANSPORT REGULATIONS

The transport market is entirely deregulated and the only intervention of the Ministry of Works, Housing and Communications, MOWHC is through the Transport Licensing Board (TLB). The main mission assigned by the Traffic and Road Safety Act of 1998 to TLB is to regulate the use of public transport vehicles, the private omnibuses and goods vehicles by issuing PSV (Public Service Vehicle) licenses after carrying out technical control of vehicles (Quality control). TLB is also responsible for the effective distribution of public transport.

In practice, TLB does not have the necessary resources (equipment and staff) to appropriately accomplish its missions. Technical control is limited to visual inspection of vehicles and the number of vehicles and their allocation to public transport routes is decided without reference to transport plan studies.

Resources allocation imbalance between infrastructure and, transport planning and regulation projects

The Ministry of Works, Housing and Communications, MOWHC is organised into two Directorates under the permanent secretary, namely Transport and Communications, and Engineering.

In the last ten years, the Directorate of transport has had insufficient financial and human resources to address its key activities. Resource allocation over the years has not only been inadequate but also biased. Infrastructure maintenance and development have been allocated a disproportionate amount of both financial and human resources. The total staff of the MOWHC is 1,620 people, of which 80% is assigned to the Department of Roads (Engineering). The number of staff assigned to the Department of Transport (Planning, Regulations and Monitoring) represent only 4% of the total staff.

The Development Budget for policy and planning activities was in no way any better than in the Recurrent Budget for the period 1991-2000. Between 1991 and 1998, the Development budgets for the Directorate constituted less than 1% of the total Development budgets for the Ministry. Only in 1998/99 and 1999/00 did the Ministry receive 443,000 US\$ and 734,500 US\$, respectively as development funds for its policy, planning and regulatory functions. These amounts constituted approximately 1.5% of the total Development budgets for the Ministry in the respective years (Table 2).

Out of the 443,000 US\$ for transport policy related studies under the development budget of 1998/99, 430,000 US\$ (97%) was meant for the Institutional Strengthening Studies, but all of which were spent on roads. Similarly, the 1999/00 Development Budget had a total of

734,500 US\$ initially destined to carry out studies on transport policy and planning. However, the largest proportion of this money i.e. (711,000 US\$ i.e. 97%) went to the Road Agency Formation Unit (RAFU) for institutional strengthening and projects preparation facilitation studies. The sum also includes the project for the Transport Planning and Database component of the transport rehabilitation programme. Again, this project was diverted from the Directorate of Transport and used for the activities of RAFU.

The imbalance in resource allocation described above led to a relative backlog of institutional capacity building for planning, regulating and monitoring of transport services compared to road infrastructure organisation. The institutional capacities have not expanded as fast as the change of ownership experienced in the transport market (from public to private suppliers). Thus, the policy, planning and regulatory functions of the Ministry have been marginalised and yet they are responsible for the safe and proper use of transport infrastructure and services.

ORGANISATION OF TRANSPORT SERVICES

Following the liberalisation of the economy and the deregulation of transport sector, transport services are largely in private sector hands.

Urban trips are made from two stations in Kampala, which are very close to each other. Mini buses are also allocated around 300 meters of reserved street space and four terminals for trips outside Kampala. Most internal trips within the city area are produced from one zone, where the two taxis stations are located. Lack of discipline regarding route allocation and loading/unloading points are a major source of traffic congestion in Kampala. There is an over supply of vehicles, which leads to a high vehicle queuing time. Vehicles tend to leave their allocated routes and load passengers on the streets (outside agreed loading points) at lower fares.

There is no data on the size and characteristic of urban transport demand and there is a need for a strategic study on urban transport planning and organisation of public transport services. This study should be undertaken together with a traffic management study of the greater Kampala metropolitan area.

Uganda Taxi Operators and Drivers Association, UTODA and Boda boda (Motorcycles) are the main providers of passenger transport services in Kampala (5). UTODA was established in 1982 and legalised in 1996. It has 16,000 members (vehicle owners, drivers and touts (brokers)) and operates a total fleet of around 4,000 vehicles in Kampala and 2,500 outside the capital city. Mini-bus (14 seats) is the dominant vehicle type, but private taxis are also used within the city centre.

Initially, UTODA was founded as a welfare scheme for drivers in case of problems like job redundancy. They later registered with seven founder members. In 1990, the association was charged by Kampala City Council to collect subscriptions from drivers. Although city council revenues rose from 24 million UgSh per year in 1990 to 3,600 million UgSh (2 million US\$) per year by 2000, this led to monopolistic tendencies preventing non-members from operating in the business.

Association main characteristics

UTODA is the only provider of minibus passenger transport services in the country. The association has total control of the entire transport market. Its main characteristics can be summarised as follows:

- The association is the sole urban service provider with total control of bus terminals
- The association is weak in terms of leadership. There is a lot of internal fighting and rivalry for power, leading to violence. Security agents are now common.
- There is high political patronage and interference with politicians as key stakeholders.
- Tendencies are high regarding corruption of the police and government officials.
- Financial accountability is poor and there is poor auditing of books.

- There is difficulty in reaching consensus among members and there is no strategic planning
- There is no professional management of transport operations and operators have no training opportunities.

Anti-competitive practices and their impact on vehicle utilisation

The current organisation of transport services presented in Figure 1 does not allow efficient use of the vehicle fleet. The transport market is not competitive. It is controlled entirely by one association, which encourages admission of new members who operate used and non-roadworthy vehicles. The Ministry of Transport is under staffed and not equipped to carry out the planning, regulation and monitoring functions. Associations therefore set fares, allocate routes and carry out self-enforcement on their operations regardless of transport needs and efficiency.

The technical and legal conditions, which are required to enter the transport business, are easily met by any potential candidate in Uganda. Therefore, access to transport activity using mini-buses is relatively easy. To become a bus operator, all that is required is a vehicle irrespective of its conditions and age costing on average 3,000 US\$ and a PSV licence, which is delivered after a basic visual inspection of the vehicle and without reference to any transport plan or strategy.

For instance, UTODA collects revenue on behalf of the city council. The levies are 4,000 UgSh as a daily fee with 20,000 UgSh per month as sticker advance fee and an amount equivalent to 2-3 passengers as loading fee. Based on the official figure of 4,000 mini-buses, an average 26 working days per month, a daily fee and 2 passengers over 5 trips/day, the total revenue collected per month should amount to more than one billion UgSh (a half million US\$). However, UTODA pays a monthly tax to the City Council of only 300 million UgSh (167,000 US\$).

For this reason, UTODA encourages the enrolment of new members since payment of membership fees is the sole condition for their admission. Therefore, the association increases the amount of revenue collected through admission fees and other recurrent park fees. The association allocates routes to new members only at a later stage after their admission regardless of the efficiency of transport services.

Since collecting revenues for local authorities has become its main activity, the association diverts from its initial objectives and neglects its members' interests. This shift in responsibilities has implications for the operation of services. It has led to political patronage and fighting to prevent the emergence of rival associations. Under this situation, only a few in the administration are benefiting at the expense of the entire members.

Although revenues from tax levies on transport services are substantial compared to other sources for local authorities, very little is re-invested to improve services. In addition, high unemployment levels together with an activity that offers obvious prospects for profitability attracts many unskilled operators/drivers to enter the transport business. This situation combined with reasons explained above has led to an oversupply of vehicles of high average age (13 years) and to high queuing time at bus stations, which in turn leads to low vehicle availability and utilisation, hence to high vehicle operating costs.

OPTIONS FOR IMPROVING VEHICLE OPERATIONS

There are options for improving vehicle operations addressing issues such as replacements of used vehicles, promotion of private sector road safety approach and financing support framework for vehicle ownership. There is also scope for longer-term policy and institutional reforms including legislative changes, vehicle imports regulation, and setting up of a transport regulator body and Private Public Partnership arrangements.

Benefits of replacing used vehicles

Most operators interviewed have a misconception of the vehicle life costs when operating used vehicles compared to relatively new vehicles. Their appreciation of costs is strongly influenced by the substantial difference between initial costs required for the purchase of used and "new" vehicles, and underestimate the whole life cost differential in operating the two vehicles.

The evidence suggests that the age of a vehicle has a direct impact on its productivity and on its maintenance costs, hence on total vehicle operating costs. Research work undertaken in Pakistan, where vehicles are relatively better maintained than in Sub-Saharan African countries, shows that the overall serviceability of used vehicles decreases on average by 10% per year while labour and spare parts maintenance costs increase respectively by 15% and 20% per year (6). Using these conservative assumptions, a comparison of vehicle operating costs of a used minibus with a relatively new minibus over a 5 year period in Uganda shows an increase in VOC savings of 30% (Figure 2).

Based on the above results, replacement of the total used minibus fleet of 7,000 (official figure provided by TLB), will cost around 81 million dollars and produce 160 million dollars savings over a period of 5 years. Each dollar invested in minibus replacement will produce around 2.0 dollars in VOC savings to transport operators. These savings do not include gains associated with reduction in external costs (accidents, congestion and pollution costs) and savings related to the increase in level of service and reliability.

Private Sector Road Safety Approach

One private sector innovation that has intervened in the safety problems in Uganda is the activities of the Professional Driving and Defensive Systems Ltd, which has developed with a Private Sector Road Safety Approach.

The advantage of this approach is that the beneficiary pays for the training services. It implies that the road user is willing to pay to improve the fleet safety. This is an important step towards sustaining road safety activities, which was previously seen as a Government responsibility. This approach has proved that re-training of drivers can lead to a significant decline in accidents as shown in Table 3.

In addition to accident reduction, one of the benefits of drivers re-training programmes is to enhance awareness of the importance of adequate vehicle maintenance to reduce vehicle operating costs.

Support framework for vehicle financing

The financing of vehicles through leasing schemes could improve vehicle operations and reduce the life cost of vehicles operations. However, this objective can only be reached by achieving an adequate level of vehicle utilisation necessary to produce sufficient discretionary cash flow. Considering current vehicle utilisation levels, financing schemes need to be adapted to the operators' capacity to meet the monthly payment objective. This could be done by reducing the interest rate and or by extending the payment period, or by simply providing assistance to raise the required risk guarantee (collateral).

Assuming a hypothetical scenario to purchase a bus, the use of preferential financing schemes, which reduce the current interest rate from 22% to 12% and extend the repayment period from 5 to 7 years, will reduce average VOC/km by respectively 7% and 6%. A variation of both interest rate and repayment period will reduce average VOC/km by 13%.

Impact of tax reduction on vehicle operating costs

There are also potential savings from a reduction in petrol taxes and vehicle import duties. In the case of minibus transport operations, a reduction of petrol tax from 40% to 30% will reduce total VOC/km by 3%. A reduction of vehicles imports duties from 30% to 20% will

reduce VOC/km by 2% and a reduction of both vehicles imports duties and petrol taxes will lead to an average of 5% reduction in VOC/km.

Institutional reforms

The average age of the vehicle fleet is relatively high (13 years) and has a direct impact on the vehicle serviceability rate, utilisation, hence on vehicle operating costs. To encourage operators to purchase newer vehicles, the financial support framework for vehicle ownership could include a reduction of vehicle import duties and petrol taxes and better access to vehicle financing. However, these measures can only be successfully implemented in competitive contexts to allow part of gains in productivity to be transferred to transport users.

Other measures that could be considered in order to gradually reduce the average age of the vehicle fleet include introducing new legislation that will not only impose an age limit on vehicle imports (5 years) but also an effective technical inspection of vehicles. This can only be implemented effectively by setting up complementary measures for the provision of appropriate vehicle inspection equipment and training. Figure 3 presents the main recommendations and their impact on vehicle operations.

There are also opportunities for introducing institutional reforms and new legislation to prevent monopolistic situations and enhance competition levels. These could include a new legislation to prescribe the size of associations (7) and a review of the present organisation structure of the Ministry of Transport by setting up an Independent Transport Regulatory Body.

The objectives of the regulatory body will be to improve the benefits to transport users through the encouragement of conditions, which promote competition in a sector where there is a tendency for a natural monopoly. The regulator should be independent from political interference and thus be answerable to parliament rather than to a Ministry. The regulator will agree performance criteria relating to associations with the Ministry and City Councils and set up the necessary mechanisms of monitoring and carrying out technical and financial audits (by employing independent private financial auditors).

The role of the Ministry of Transport will therefore consist of policy making for the development and maintenance of an adequate transport infrastructure to facilitate the provision of safe and efficient transport services. The Ministry of Transport should also set the objectives and performance targets not only for the road agency (infrastructure) but for associations too (transport services). However, in order to carry out these missions successfully, the Ministry of Transport requires technical assistance for capacity building and strengthening its planning and regulatory functions.

There is also scope for the development of Private Public Partnership (PPP) projects at different levels of the transport activity. The evidence shows that a key impediment to increase level of competition is the monopolistic control of bus parks by the association. Appropriate private public partnerships in the provision and management of bus parks can have a significant impact on public transport efficiency. In this context, the project for the rehabilitation of the inter-urban bus terminal by a third party (concessionaire) on a BOT basis is a good example. The project will introduce financial discipline and transparency and identify clearly defined roles and responsibilities for each stakeholder; the City council, the Associations and the Contractor.

The recommendations and measures described in Figure 3 are innovative considering the Ugandan context. The likelihood of their implementation rests upon the level of awareness of decisions makers that the suggested reforms will gradually improve transports efficiency and lead to a "win-win situation".

The Department For International Development (DFID) funded project from which these recommendations emerge will attempt to begin the process of raising awareness of the various stakeholders to the issues raised in this paper. It is proposed that in addition to individual dialogue there will also be a series of workshops to present the findings and agree on an action plan for the future. This will be facilitated through the production of various

sensitisation materials targeted at regulators, operators, users and the donors. This sensitisation material will set out the impact of the current situation together with options for long term reform. This is inevitably a long term process but one where all the key stakeholders can potentially gain. Convincing them of this is the key to successful implementation.

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TABLE 1 The survey's main results

Characteristics	Mini-buses(14 seaters)
Ownership	
Other private individual	90%
Private/joint owner	10%
Private transport company	-
Average vehicle age (years)	13 years
Average current value of vehicle (in US\$)	3,000
Average distance per week (km)	1,065
Coefficient of Variation (CV)	65%

TABLE 2 Development budget 1991/92 - 1999/00 (in UgShs Millions)

FYR Item	1991/ 92	1992/ 93	1993/ 94	1994/ 95	1995/ 96	1996/ 97	1997/ 98	1998/ 99	1999/ 00
Total Budget	2,230	1,485	2,860	9,450	15,500	29,640	26,110	50,420	91,240
Budget for Policy & Planning Studies	-	3.0	-	10.8	24.0	51.0	144.0	798.0	1322.0
Policy and planning as % of Total	-	0.20	-	0.11	0.15	0.17	0.55	1.58	1.45

Source: Ministry of Works, Housing and Communication, Uganda

TABLE 3 The benefits of training drivers on accident reduction

Organisation	Number. of accidents* before training (1999)	Number. of accidents after training (2000)
Shell Uganda Ltd	2	0
MTN Uganda Ltd	8	1

*Fatalities

Source: Professional Driving and Defensive Systems Ltd

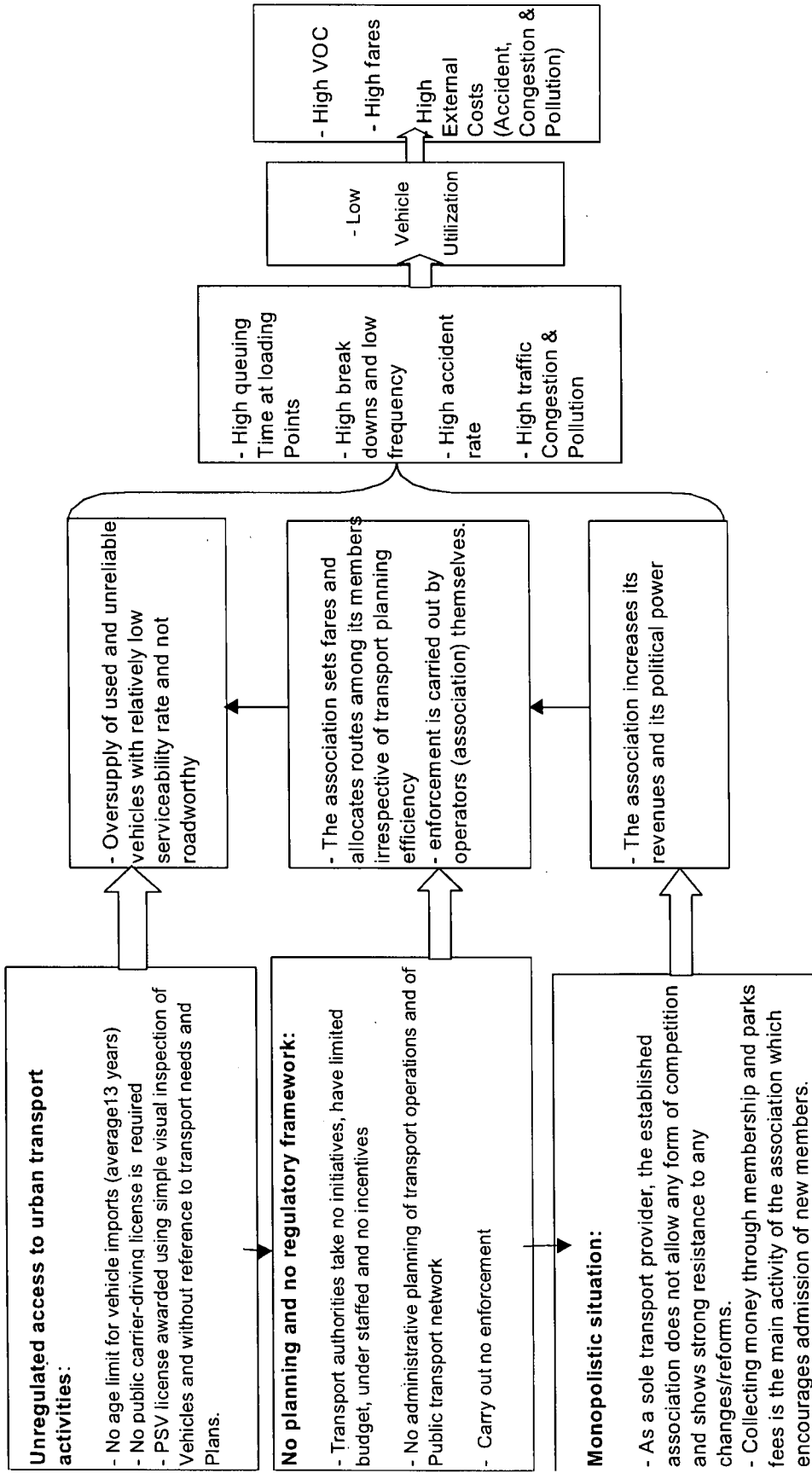


FIGURE 1 Current organisation of transport services and its impact on vehicle utilisation

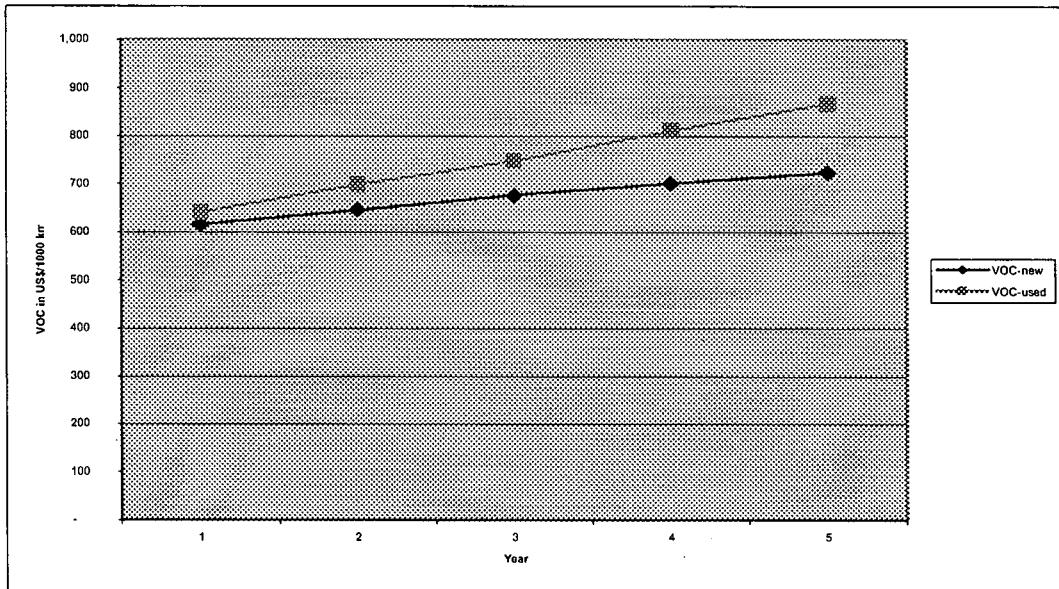


FIGURE 2 Comparison of the life cost of operating new and used mini-buses

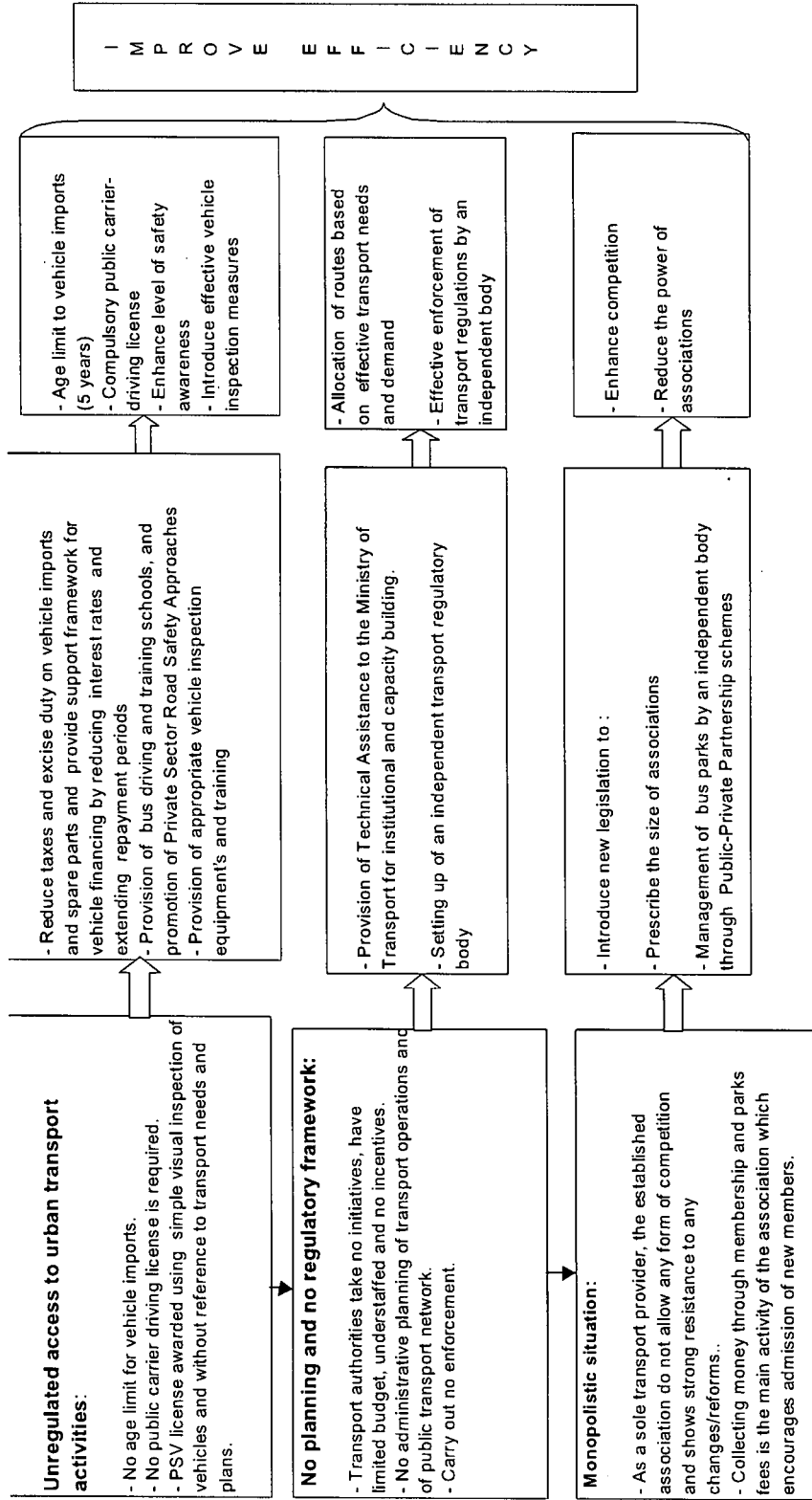


FIGURE 3 Options for improving vehicle operations