Report No. 7881-KE

Kenya
Urban Transport Development Issues

May 9, 1990

Eastern Africa Department
Infrastructure Division

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EXCHANGE RATES

(K.Sh. to US$, Annual Average)

1980	7.42
1981	9.05
1982	10.92
1983	13.31
1984	14.41
1985	16.43
1986	16.23
1987	16.45
1988	18.50

GOVERNMENT FISCAL YEAR

July 1 to June 30

ABBREVIATIONS AND ACRONYMS

DPP	Department of Physical Planning
ESAMI	East and Southern African Management Training Institute
GDP	Gross Domestic Product
GNP	Gross National Product
GPT	Graduated Personal Tax
KBS	Kenya Bus Services (Ltd)
KCC	Kisumu City Council
LGLA	Local Government Loan Authority
MLGPP	Ministry of Local Government and Physical Planning
MOTC	Ministry of Transport and Communications
MPW	Ministry of Public Works
MVOA	Matatu Vehicle Owner's Association
MCC	Mombasa City Council
NBSC	Nyayo Bus Service Corporation
NCC	Nairobi City Commission
NRSC	National Road Safety Council
NYS	National Youth Service
OP	Office of the President
UTI	United Transport International

KENYA

URBAN TRANSPORT DEVELOPMENT ISSUES

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This report represents the main findings of an Urban Transport Sector Mission which visited Kenya in January, 1989. The mission comprised Richard Barrett (Team Leader), Edouard Irgens (Highway Engineer), Max Iacono (Institutional and Training Specialist), and Consultants Michael Whitbread (Financial Analyst), Bernard-Henri Nicot (Economist) and Alan Ross (Road Safety Specialist).

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URBAN TRANSPORT DEVELOPMENT ISSUES

EXECUTIVE SUMMARY

1. Despite unfavorable external conditions Kenya's past economic performance has been commendable. Its long-term rate of growth has been impressive and its macro-economic management has for the most part been sound. However, Kenya, like many other African countries, continues to be buffeted by external economic shocks. These shocks and the Government's failure to take rapid counter measures have had a major destabilizing effect on the domestic economy.

2. The most serious obstacle to long-term economic development and improvements in living standards in Kenya is its high population growth rate. The present population of about 21 million is expected to reach more than 30 million by the year 2000, an increase of 42 per cent in a little over ten years. With the number of inhabitants increasing at a rate of 3.4 per cent per annum, the labor force is expected to double before the year 2000 - necessitating the absorption of 7 million new entrants into the work force. To achieve this level of absorption the economy will have to grow at about 5 percent per annum.

3. To sustain economic growth and generate employment for Kenya's rapidly growing labor force, stabilization measures need to be supported by a continuation and deepening of structural adjustment efforts. In the short run these efforts should focus on controlling the growth of public spending, particularly recurrent expenditures, and maintaining a lower budget deficit by liberating resources for private investment. Over the medium term, continued emphasis should be placed on promoting structural adjustment in agriculture, manufacturing and the financial sector. The Government also needs to improve the use and efficiency of public sector resources. 1/

4. Urban transport plays a vital role in the economy of Kenya, particularly in Nairobi which generates a major share of GDP. The transport needs of low-income workers are most acute in the largest towns. Providing an efficient urban transport system which fully caters for demand should therefore be a high priority. Such efficiency and supply levels are lacking in Kenya's urban areas. Low expenditures on maintenance and lack of investment in network capacity have caused urban road networks to decay. In Nairobi, severe competition for road space at peak hours results in traffic congestion, high transport costs and reduced productivity of public transport vehicles. Fuel consumption is also high due to low travel speeds and stop and start travel conditions. An important share of transport resources (vehicles and fuel) are consumed in Kenya's urban centers. More than 65 per cent of vehicles are registered in the three largest urban centers - of which 45 per cent are in Nairobi.

1/ Annex 2 provides a macro-economic development overview.

Urbanization

5. Urbanization in Kenya is proceeding at a rapid pace. Population census results show that between the census years urban areas grew substantially, averaging 5.4 percent per annum between 1962 and 1969, and reaching 7.9 percent per annum between 1969 and 1979. This has caused the urban population to double in ten years and the proportion of population living in urban areas to increase from 9.9 percent in 1969, to 15 percent in 1979. Based on the last inter-census trends the urban population is expected to reach 8.6 million by the year 2000. The proportion of urban population will be 28 per cent - almost twice the current level. Between 1990 and 2000 there will be an additional 3.9 million urban dwellers equivalent to three new cities the present size of Nairobi. Finding the investment required to develop the infrastructure for this population presents a daunting challenge - one that the central Government, on its own, will find difficult to finance. The responsibility for providing infrastructure and services will therefore mainly fall on the shoulders of the municipalities which are ill-equipped to take on this obligation.

6. The Government of Kenya is aware of these problems and is currently examining possibilities for local government reform as part of a broader program of decentralization and privatization. The Government's rural-urban balance strategy provides a blue print for simultaneously stimulating growth of urban centers and their agricultural hinterland that is consistent with the country's macro-economic objectives. However, given the rate of population growth and the threatened explosion of Kenya's major cities, the Government clearly recognizes that efforts must be intensified to meet the objectives of this policy. Accordingly, the Government is undertaking a major initiative to stengthen local authorities by upgrading management capabilities and consolidating and expanding local revenues.

7. Urban transport planning as a continuing and integrated process is not carried out in Kenya. A comprehensive urban transport plan was developed as part of the Metropolitan Growth Strategy for Nairobi in 1974. This was the last time that any in-depth analysis of urban transport demand was carried out. In the intervening period the population of Nairobi has doubled and development has taken place with very little investment in roads or public transport systems. The impact is clearly visible on traffic congestion. Considerable densification of the central area has taken place in the past ten years without consideration of transport needs. This has led to a severe under-supply of parking space and lack of capacity on the road network. Public transport supply is inadequate and very little has been done to improve the efficiency of buses and matatus.

8. If past trends continue, the population of Nairobi will increase by one million by the turn of the century. A strategy to deal with all aspects of this growth is urgently needed. This could best be achieved through a detailed review and update of the Metropolitan Growth Strategy. This review should pay particular attention to the transport capacity constraints of the central area and the development of district centers which would relieve pressures in the city center.

Motorization

9. The motor vehicle fleet in Kenya increased by the modest rate of 3.3 per cent per annum over the past decade. However, the rate of motorization (vehicles per head of population) in Kenya is now falling. The overall rate of motorization (including all vehicles) fell at a rate of 0.33 per cent per annum in the last ten years. Car ownership is falling twice as rapidly at 0.82 per cent per annum. To compensate for this lower level of motorization the number of public transport vehicles has been increasing. The number of buses has grown at a rate of about 5 per cent per annum since 1980. Future growth of the vehicle fleet will be affected by import liberalization policies. A low estimate, based on existing trends indicates that the motor vehicle fleet will comprise 414,000 vehicles in the year 2000, of which 42 per cent will be private cars and 6 per cent will be buses. The overall level of motorization will be lower than at present, decreasing from 14.8 to 13.5 vehicles per 1000 population. Although import liberalization will increase the number of passenger cars in the vehicle fleet, public transport will remain the prime mode of transportation. It will be particularly important in the larger urban areas where the majority of residents will be dependent on public transport to gain access to jobs and services as the cities expand. Currently, significant numbers of low-income workers are unable to afford public transport fares. The provision of adequate footways is also of fundamental importance since this is the most frequently used mode of transport in Kenya's urban areas. The large numbers of pedestrians are also a reflection of the lack of public transport supply and low incomes. Improved tracks for bicylces could also improve travel conditions for many of the urban poor.

Demand Management

10. Although the provision and operation of transport vehicles is essential to economic growth, it is also a major consumer of foreign exchange resources, mainly for the purchase of fuel and vehicles. The largest cost is for fuel. The net value of fuel imports represented 28 per cent of non-oil exports in 1987. The cost of imported vehicles and spare parts has varied between 7 and 12 per cent of non-oil exports between 1983 and 1985. Government has attempted to limit spending on vehicles by closely regulating foreign exchange allocations and encouraging the growth of local vehicle assembly. This has led to protectionist policies with regard to vehicle assembly. Approximately two thirds of new vehicles are now assembled in Kenya.

11. Although there are costs associated with the protection of the local vehicle assembly, the impact of the controls has meant that the vehicle fleet has only shown a modest growth. Consequently, the demand for fuel has not sky-rocketed. This policy appears to have been effective in containing costs. Research indicates that it is the constraint on vehicle imports that has restrained fuel expenditures rather than fuel price increases.

12. Because of the large cost of fuel and vehicles to the economy it is vital that these resources are used as efficiently as possible. The constraint on vehicle supply has effectively induced efficiency in the use

of private vehicles. Car occupancy is quite high due to multiple purpose trip-making. The high car occupancy rates are a further indication of the lack of supply of public transport vehicles. Scope for further efficiency improvements are greatest in Kenya's urban areas, particularly in Nairobi where about 47 per cent of all vehicles are registered. The heavy concentration of vehicles and the competition for road space and parking facilities in Nairobi has created significant congestion. On certain main roads travel times during peak hours are twice as long as off-peak. Congestion costs are extremely high during these periods. Mismanagement and shortages of public parking space in the center of Nairobi also cause congestion. Considerable additional vehicle kilometers are undertaken as drivers try to find a place to park their vehicles. A detailed analysis of possible demand management measures which could be implemented in Nairobi is an urgent requirement.

Road Networks

13. Road network conditions in Kenya's principal urban areas have deteriorated significantly over the past ten years. The situation has reached serious proportions. It is estimated that only 24 per cent of the total road network in Nairobi, Mombasa and Kisumu is in good condition and that 56 per cent is in poor condition. Approximately half the roads in poor condition require major rehabilitation to bring them into a maintainable condition. If the level of funding is not increased the situation will deteriorate rapidly. The cost of eliminating the road maintenance backlog in the three principal cities and re-equipping these Municipalities to carry out routine maintenance has been estimated at US$ 120 million. It is estimated that an additional US$ 70 million is needed to rehabilitate roads in other cities with over 50,000 population. Delays in tackling this problem will cause the total cost to escalate rapidly as more and more roads fall into a state of disrepair. Such a situation could only be rectified through expensive rehabilitation. At the same time vehicle operating costs will escalate due to wear and tear and traffic delays. If left unattended, deterioration will continue and Kenya's urban roads will soon require rehabilitation on a massive scale.

14. Investments in additional urban road capacity are also urgently needed. This is particularly true in Nairobi where traffic congestion is reaching serious levels and the efficiency of public transport operations suffer. Financing maintenance and capacity expansion poses a major problem for the Municipalities. The level of income from local transport sources would need to be increased five-to-six-fold to cover existing transport related recurrent expenditures and up to ten-fold if recurrent maintenance was being carried out at an adequate level. The proposed Services Charge will help to alleviate this problem, but will not be enough. Consideration needs to be given to selective increases in spending by central Government on urban roads, and increases in local Government revenue mobilization from parking and road user charges. In this respect an area license tax for vehicles parking in the center of Nairobi should be considered.

Public Transportation

15. Urban public transportation in Kenya was entirely in the hands of the private sector until 1986. At that time the Government of Kenya

began operating urban bus services and introduced suburban railway services in Nairobi. These government-owned services compete with: (a) a large foreign owned company (Kenya Bus Services Ltd.) which provides bus services in Nairobi, and bus and ferry services in Mombasa; and (b) privately owned mini-buses, known as matatus, which operate in most urban areas. In Nairobi, the private sector carries about 650,000 trips per day (KBS 360,000 and Matatus 290,000) and the public sector about 47,000 trips per day (Nyayo Bus Services 40,000 and Kenya Railways 7,000).

16. Since 1986, the central Government has provided capital finance for the start up of the National Youth Service (NYS) bus operations (Nyayo Bus Services Corporation). Government has underwritten the losses of Kenya Railways suburban train operation in Nairobi. So far the Government has spent K£ 30 million on a new bus depot for the National Youth Service in Nairobi and K£ 3 million on 40 buses. Further expenditures on depot facilities are planned in Nairobi and Kisumu. Responsibility for operating the Nyayo bus services is shortly to be taken over by the newly created Nyayo Bus Services Corporation (NBSC), a publicly owned Government parastatal. Government's involvement in the suburban rail services has been less costly. Total losses on these services up to the end of September 1988 were K£ 1.4 million. The suburban rail services, which transport about 1 per cent of daily trips, could be provided more cheaply and effectively by about 15 buses. The Kenya Railways locomotives and rolling stock assigned to these services could be used more cost effectively on other passenger operations. Early consideration should be given to abandoning these loss-making suburban train services.

17. The recent involvement of the central Government in public transport operations is a source of concern since it heralds the specter of major Government subsidies in what was previously a wholly private sector environment. Experiences of other African Governments which have involved themselves in public transport operations are replete with cautionary tales and financial disasters. Embarking on such a course of action could have an injurious impact on the existing private sector environment. In recent years KBS' profitability has declined significantly and the Nairobi operation is now operating at a loss. This situation has come about through Government control of fares. Applications for fare increases by KBS have not been dealt with promptly and the fare increases have not kept pace with inflation. Bus operating costs have risen twice as fast as fares since 1982. KBS are attempting to become profitable again by cutting back on loss-making services and retiring the old vehicles which are expensive to maintain.

18. The situation of KBS has been further aggravated by the low fares charged by the Government-owned NYS operation. By charging lower fares the Government have introduced price distortions which could potentially discourage or drive out investment by the private sector. Although competition from NYS can be considered a positive development, this should be on an equal and commercial basis. Unfair competition supported by Government subsidies will not benefit the Government or the consumers. Cheaper urban transport services for those segments of the community in most need can be achieved by other means than across-the-board low fares. Targeted subsidies directed at specific groups can allow the Government to fulfill its social objectives and at the same time assure financial

viability. Timely transfers of compensating payments by Government are necessary for this system to work correctly.

19. The financial standing of the NYS bus services also gives cause for concern. The losses on these services could reach US$ 2.3 million in FY90/91. The present accounting methods disregard the cost of capital and overhead expenses (salaries are paid by Government), and fuel is supplied tax-free. Estimates based on commercial accounting principles show that the NYS fleet is operating at a loss even with subsidized fuel. Justifying lower fares on the basis of such unhealthy accounting practices will result in huge subsidies and guarantee the eventual disintegration of private sector public transport operations. The private sector will not be able to compete with the uncommercial fare levels adopted by the NBSC.

20. NBSC also have other major problems to contend with. Although the NYS has done an admirable job in getting the operation started, they are now faced with managing one of the largest and fastest growing bus fleets in Africa. With no previous experience in this complex and demanding field, the future performance of the company is in considerable jeopardy. Without a strong management team the Corporation will be unable to maintain its fleet and exercise proper financial controls. It is clear that NBSC desperately needs to improve management procedures, financial controls and staff training. Critical to its success will be the establishment of a strong preventive maintenance program, and sound financial regime based on commercial practices.

Road Safety

21. The road safety situation in Kenya gives rise to significant concern. The number of road accidents increased at a rate of 6.8 per cent per annum throughout the 1980's. This rate of increase is twice as high as the population and vehicle fleet growth rates. The number of fatalities and injuries also increased over the same period at 4.2 and 9.6 per cent per annum respectively. Deaths from road accidents now total more than 1,850 per year and injuries have reached 16,900 per year. The number of casualties (deaths plus injuries) per accident reported has shown a steady increase over the past two decades. These increases have occurred despite wide ranging assistance from bilateral and multilateral donors. In some cases the assistance provided has not been fully utilized. Vehicle testing equipment has not been installed and finance has not been made available to implement road safety studies at accident blackspot sites.

22. The National Road Safety Council of Kenya estimated the cost of road accidents to the Kenyan economy in 1981 at at least Ksh 1,000 million. This was equivalent to 1.7 per cent of GNP. A more recent calculation of accident costs showed annual losses of around Ksh 1,475 millions (equivalent to 1.3 per cent of GDP). Although it was not possible to disaggregate those items incurring foreign exchange costs, the largest proportion of the vehicle damage costs relate to the cost of imported spare parts. Similarly, much of the cost of medical care for the injured is for imported drugs and medicines. Consequently, it is likely that a significant portion of the total cost arising from road accidents is in foreign exchange. A program of remedial measures at accident blackspot sites is urgently needed together with improved enforcement of traffic laws and education programs.

Urban Transport Finance

23. In recent years the overall financial picture of central Government involvement in the road transport sector is of significant decreases in real expenditures and significant increases in real revenues. The ratio of road transport expenditure to transport revenues fell from 50 per cent in FY84 to 25 per cent in FY87. Government is using the sector to maximize general budget revenues, whilst allowing assets of the sector to deteriorate. There is, of course, no reason why the transport sector should not be used to boost Government resources, but it does not make sound economic sense to do this at the expense of decreasing the asset value of the road infrastructure and building up a backlog of maintenance needs. The seriousness of this situation becomes clear when the supply of infrastructure is compared to demand. Expenditures are decreasing as the number of vehicles is increasing. Without a resurgence in expenditures on road infrastructure the road transport system will continue to deteriorate, particularly in the high-demand urban areas. This could have a significant impact on economic development as transport costs increase due to poor road surface conditions and delays.

24. The importance of urban areas to the Kenyan economy is amply illustrated by the fact that urban areas contributed a share of national product almost three times greater than their share of population. Government surveys show that Nairobi plays a dominant role in the productive sector of the economy. In 1982 more than 55 per cent of urban wage employment was in Nairobi. Six towns, Nairobi, Mombasa, Kisumu, Nakuru, Thika and Eldoret accounted for 87 per cent of urban wage employment. It is essential therefore that industry and services are able to operate efficiently. A major determinant in operational efficiency is low-cost, reliable transport. Existing urban road networks and public transport services do not meet these criteria. Vehicle operating costs in all municipalities are high due to poor road conditions. Public transport services are not sufficient to guarantee that employees can arrive to work on time. In Nairobi, which generates a major share of national GDP, traffic congestion causes significant delays to goods vehicles as well as causing thousands of commuters to lose up to an hour a day in traffic jams.

Municipal Finance

25. Municipal finances have been in a spiralling decline since 1974 and are now in a poor condition. Lack of revenues has reduced recurrent expenditures to an unhealthy level and capital investment by local authorities has virtually dried up. In recent years the revenues of Kenya's three largest Municipalities have been decreasing by about 5 per cent per year. This deteriorating financial base is reflected in the expenditures per capita, which in the case of Nairobi, have decreased in real terms by almost 50 per cent between 1981 and 1987.

26. Government's policy of supporting agriculture and emphasizing the development of secondary towns has been successful. However, in focussing on rural development the needs of the main urban centers have been neglected. Actions by central Government have also weakened the financial base of local authorities. This process of gradual erosion of municipal

authorities' financial base goes back to 1969. Between 1969 and 1973 the Government gradually abolished the Graduated Personal Tax (GPT) for all municipalities. To mitigate against the loss of this important revenue, and the resulting financial strain on the municipalities, the Government introduced a series of municipal grants. Gradually, these grants were removed as central Government's budget became increasingly constrained. Finally, in 1983, in response to continuing monetary pressures, the Government eliminated all grants to local authorities except teacher's salaries. During this period, costs escalated, inflation eroded purchasing power, urban areas grew rapidly, and the local authorities did not expand their revenue base. As a result, local authorities were increasingly unable to carry out basic maintenance. Development budgets were reduced and almost all new investment was undertaken by borrowing. Local authorities, and particularly the larger municipalities, now find themselves in a precarious financial state.

27. Despite cuts in real expenditure per capita municipalities have incurred deficits in their General Rate Fund Revenue Accounts. These have been financed by a combination of: (a) running down reserves - which are now almost exhausted; (b) use of cash surpluses from other municipal funds (which is technically illegal); and (c) accumulation of arrears, particularly to other parts of the public sector. Non-payment of bills has become a common feature of public sector finance. In Nairobi, Government and para-statals are at least four years behind with payments of rates to the City Commission. The City Commission has in turn, held back income and tax charges which it has collected and are due to the central Government. Debtors and creditors have risen four-fold in the city accounts since 1981. Thus, not only have the resources of municipalities become extremely limited, their financial affairs are on the verge of breakdown.

28. In recognition of local authorities dire financial situation, Government re-introduced the GPT in the form of a Services Charge on January 1, 1989. Mission estimates for the three largest cities show that the new services charge will ease the immediate cash crises in Nairobi and Kisumu and then contribute approximately 20-30 percent to expenditure in the first full year of collection. Estimated revenues in Nairobi, Mombasa and Kisumu are respectively, K£ 11.3 millions, K£ 7.5 millions and K£ 2.4 millions. Despite this important new source of finance the increased revenues will not be enough to bring municipal expenditures per capita back to the pre-1981 levels in real terms. A comprehensive review of revenue generating opportunities needs to be undertaken by the local authorities. In the transport sector increased parking charges and penalties are obvious candidates.

29. The increased revenue from the Services Charge should enable local authorities to increase their borrowing potential for capital projects. A workable mechanism needs to be found to provide such finance. The Government's Local Government Loans Authority (LGLA) was originally set up to facilitate such investment, but is no longer able to function properly. The possibility of resuscitating or revamping the LGLA needs to be investigated. There is clearly a need for central Government to re-examine its public expenditure priorities. Strengthening basic infrastructure in urban areas is an urgent and critical need. Further neglect will only incur higher costs in the longer term. Municipal authorities will

also have to play a more important role in financing local infrastructure costs. Ways of increasing local resource mobilization need to be investigated. A thorough analysis of how this might be achieved and a detailed action program are urgently needed.

Institutional Reform and Development

30. Institutional effectiveness in the field of urban transport is limited by; (a) fragmented responsibilities; (b) weakness in the development and coordination of policy; (c) lack of follow-through on policy implementation; and (d) uncoordinated actions in the management of urban public transport resources. There is no clear cut urban transport policy in Kenya. What exists, is an amalgam of high level decisions and policies concerned with related sectors such as roads, public transport, road safety and urban development. This weakness mainly stems from: (a) a lack of awareness of the importance of urban transport to the economy; and (b) a lack of skilled transport engineering and planning professionals in central Government Ministries. The problem is further compounded by the lack of a strong lead agency empowered to coordinate and implement comprehensive urban transport policy measures. At the local level the principal constraints are complex administrative controls and weak management and professional and technical skills. Training opportunities for transport professionals are few, but possibilities exist for building up local training capabilities.

31. The two most important institutional issues to be addressed concern the development and implementation of urban transport policy. At the national level, significant strengthening of the Urban Transport Policy Committee is needed if it is to play a role in improving transport efficiency. At the local level, streamlining the management, planning systems and procedures of the Nairobi City Commission is necessary to improve the implementation capacity, quality and timeliness of the delivery of road and transport related services.

32. Central Government: The present arrangement whereby an administrative Ministry is responsible for policy in what is a heavily technical sector may not be a workable solution in the longer term. The Urban Transport Policy Committee is an important forum for decision making and should be taking the lead in research and policy formulation. The fact that it is not, is more a reflection on the organization and staffing profile of the Ministry of Local Government and Physical Planning which chairs the Urban Transport Policy Committee, rather than the will of its senior management. There are several possible solutions to this problem. All of these solutions however, have a common element. That is, the need to set up an urban transport secretariat, or unit, to serve the Urban Transport Policy Committee. This Unit would be responsible for researching and formulating policy alternatives, presenting them to the Committee and implementing the Committee's decisions. The Unit would provide a technical bridge between Government and Local Authorities on urban transport matters. It could also play a important role in the supervision and coordination of the public transport sector operations and fares policy. However, its inputs in these areas should be strategic and policy related rather than regulatory.

33. The decision about the administrative location of an Urban Transport Policy Unit will require Government debate. The outcome should clearly establish the lines of authority needed for the effective implementation of policies which affect several Ministries. However, since most of the key issues in the urban transport sector are concerned with either, public transport or road infrastructure investments, it would be more appropriate to align the Unit with one of the Ministries with a critical mass of expertise in these areas.

34. Nairobi City Commission: In Nairobi, more so than in other Kenyan cities, there is a need to tackle the problems of inefficient management of road space and its maintenance. The current responsibility arrangements in the Nairobi City Commission makes this aim difficult to attain. A thorough analysis of the functions and responsibilities of the City Engineer's Department and its associated departments is needed. This review should focus on increasing the accountability of managers and streamlining service delivery systems.

35. A common critical issue amongst all the organizations involved in the urban transport sector is a lack of technical skills and access to training opportunities. A critical aspect of the management review in Nairobi should involve training and the formulation of a manpower development program. The aim of such a program should be to raise the technical and management capabilities of the Commission and increase its attractiveness as an employer. Training needs are particularly acute in the Municipal Authorities, Nyayo Bus Service Corporation (NBSC) and in the Ministry's concerned with urban transport matters. In some instances, particularly that of the NBSC, technical assistance combined with training could be a more appropriate solution.

Action Program

36. Improving the efficiency of urban transport in Kenya requires determined action several parallel fronts. In the short-term, in Nairobi, there is a need to: (a) undertake a program of road rehabilitation and maintenance (including the purchase of equipment); (b) improve traffic management; (c) build missing links in the road network; (d) expand the capacity of certain congested main traffic arteries; (e) improve travel conditions for public transport vehicles; (f) improve parking control and revenues; (g) improve travel conditions for pedestrians; and (h) reduce road accidents. A major part of this effort should focus on: (a) the central area where traffic congestion is most acute; and (b) the industrial area which suffers from poor accessibility. In Mombasa, Kisumu and other towns and cities the principal needs are for: (a) road rehabilitation and maintenance; (b) traffic management improvements; and (c) construction of one or two critical links in the road network.

37. The chances of successfully implementing such actions and maintaining an efficient urban transport system will depend in the longer-term on increasing the management and implementation capacity of the local authorities. This will require additional financial resources and strengthened technical capabilities. Studies to improve the efficiency and accountability of the City Engineer's Department, streamline its service delivery procedures and increase revenue generation need to be undertaken. Local

training opportunities for urban transport and related topics should be increased to provide strengthened capabilities in both central and local Government.

38. Based on the above strategy an outline action program for urban transport has been developed for the three largest cities, Nairobi, Mombasa and Kisumu. The program, which totals about US$ 216 million, attempts to provide a comprehensive approach to resolving urban transport problems. It deals with physical improvements (civil works), equipment requirements, institutional strengthening (technical assistance and training), and policy and development studies. This is a first attempt at defining a program. Further refinement and detailed inputs are needed from Government agencies. Also, if it is to be truly comprehensive, the program needs to be expanded to cover other urban areas. 2/ The program is relatively ambitious in that it tries to eliminate the backlog of municipal road maintenance and road construction over a period of five years. This will clearly not be possible. Constraints on finance and implementation capacity will require the program to be extended over a longer time horizon. Priorities will need to be determined for rehabilitation and investment in new roads. This will involve detailed feasibility studies and establishing a priority ranking system based on economic analysis. Cost estimates for the urban transport action program are shown in Table 1.

Table 1. URBAN TRANSPORT ACTION PROGRAM

(US$ millions)

	Central Government	Nairobi	Mombasa	Kisumu	Total
Physical Works	45.95	102.25	18.19	18.66	185.05
Equipment	1.09	13.11	6.88	3.33	24.41
Technical Assist.	1.22	0.72	0.58	0.29	2.81
Training	0.30	0.10	0.06	0.06	0.52
Studies	0.87	1.90	0.60	0.00	3.37
Total	49.43	118.08	26.31	22.34	216.16

Source: Mission Estimates (see Tables 5.1-5.34)

39. As shown in Table 1, finance for the action program will be borne by the Municipalities and central Government. To implement such a program Government will need to review its public expenditure priorities in

2/ It is estimated that a further US$ 70 million would be required for road rehabilitation and maintenance in 13 other towns (listed in Annex 1, Table 1.3) with over 50,000 population. This cost has been estimated using per capita estimates from Kisumu. The estimated cost of US$ 70 millions corresponds to approximately 65 km of improved roads in each town.

order to make more finance available for the large urban centers. Municipalities will also need to review their priorities and increase local resource mobilization. Borrowing from the LGLA and the donor community should also be considered as a means of financing part of the program.

Key Issues

40. The success and speed of implementation of urban transport improvements will be conditioned to a significant extent by attention to five key issues: (a) the development of an urban transport policy; (b) institutional strengthening and management; (c) public transport organization and fares; (d) establishment and enforcement of appropriate parking policies in urban centers; (e) improving road safety; and (f) enlarging the revenue base of local authorities. In addition Government needs to give active consideration to developing a metropolitan growth strategy which relieves development pressures in the center of Nairobi. These issues are discussed below and summarized in the Table on pages (xiv) - (xvi).

41. Urban Transport Policy Formulation: The most urgent need in the urban transport sector is for the development of a consistent urban transport policy which focuses on efficiency, equity and affordability. There is a need to investigate ways and means of reducing transport costs, encouraging greater efficiency in the use of transport resources and developing appropriate demand management techniques. The role of Government should be clearly defined and limited to those areas which are essential for regulatory control, the supply of infrastructure services and enforcement of safety standards.

42. Institutional Strengthening and Management: The main focus of institutional strengthening should be on policy development at the central Government level and on improved service delivery at the municipal level. The Urban Transport Policy Committee needs a technical secretariat which is can supervise policy studies and implement their findings. At the local level, there is a need to streamline coordination and delivery systems. A greater sense of professionalism and accountability needs to be engendered within the engineering departments responsible for the design, maintenance and operation of urban transport infrastructure. To support these developments local training agencies in the urban transport sector need to be nurtured and expanded.

43. Public Transportation: An untenable situation has developed which if left uncorrected will lead to the disintegration of the private sector and massive Government subsidies. The NBSC are using unhealthy accounting principles to justify low fares. These low fares are causing the NYS services to operate at a loss and causing price distortions which will eventually drive out the private sector. The most likely, and worst case scenario in the short-term, is that KBS will reduce its operations to zero by gradually retiring the oldest elements of its fleet, and that NBSC will be unable to fill the gap. In the longer term, if the NYS operations expand, matatu operators will find it increasingly difficult to compete with the uneconomic fares of NBSC and will retire from the market. This will lead to a major public transport crisis in Nairobi and Mombasa. To avoid this situation it will be necessary to: (a) introduce a rational fares policy that guarantees economic fares to all transport operators; (b)

preserve the KBS operation in private ownership; and (c) limit the growth of NBSC until it can effectively manage its existing services and commercialize its operation. If cheaper fares are considered necessary for certain segments of the community then targeted subsidies should be introduced for these groups. The loss of income to the operators should be clearly identified and the operators recompensed.

44. If the KBS operation cannot be preserved in its present form then Government should not attempt to fill the gap through the immediate expansion of NBSC. This would severely compound the present management difficulties of the NYS and could lead to even worse financial losses. In such a situation Government should give urgent consideration to opening up the public transport market to private operators of large buses by removing the limit on the size of matatu vehicles. Government's policy and intentions on public transportation clearly need to be re-examined. Objectives need to be set which will encourage the development of the private sector and at the same time minimize the financial risk of the Government.

45. Parking Policy: In the central area of Nairobi there is an urgent need to develop and implement a parking policy which decreases congestion in the downtown area. Improved enforcement will be needed to achieve this goal. The policy must have the full support of both local and central Government if it is to be successful. The policy proposals will need to be complemented with civil works designed to remove by-passable traffic from the central area (eg. completion of the eastern by-pass). Providing relatively cheap peripheral parking around the center of Nairobi, linked to a more expensive area licensing scheme for vehicles entering the downtown area, should be investigated as a potential traffic control and revenue generating measure. Such a scheme could also have important environmental and traffic flow benefits. In the medium term it will be necessary to carry out a program of demand management measures combined with urban planning controls which limit the amount of traffic on the most congested parts of the road network.

46. Municipal Finance: Adequate financial resources are critical to the long-term development of an efficient infrastructure network. Urban areas in Kenya are unable to sustain recurrent expenditure needs, nor are they in able to generate sufficient resources to invest in capital improvement works. The newly introduced Services Charge will help in this respect. However, it will not provide the levels of income needed to eliminate the large backlog of rehabilitation and expand the capacity of the road network to cope with current demands. The urbanization thrust, which is expected to continue for several decades, also places a major burden on municipalities for increased expenditures on infrastructure and services. Developing a sound financial base for municipal development is an urgent and important task that is essential to the economic growth and development Kenya. A major effort should be made to increase the revenues of local government areas and set up financing mechanisms for capital investment.

KENYA URBAN TRANSPORT ISSUES

ISSUES	OBJECTIVES	RECOMMENDATIONS
Urban Transport Policy Formulation and Implementation.	To develop an urban transport policy for Kenya based on efficiency, equity and affordability criteria.	Policy studies for public transportation, demand management municipal finance (see below).
Institutional Strengthening and Management.	Central Government: To improve the formulation, development and implementation of urban transport policies.	Establish an urban transport policy secretariat to work with the urban transport policy coordination committee.
	Municipal Government: To improve the delivery and quality of municipal services in the transport sector, particularly road design, road maintenance, traffic management and road safety.	Review the organization and capacity of City Engineer's Departments, relationships with other departments and external agencies and implement management improvements to planning, design, construction and maintenance functions.
	To develop central and local government professional skills in the fields of traffic management, transportation planning, road maintenance and design and transport economics.	Improve local training opportunities for engineers and planners.

ISSUES	OBJECTIVES	RECOMMENDATIONS
The Role of Government in Public Transportation.	To rationalize the role of Government in urban public transportation.	Review the role and impact of Government policies on the provision and control of urban public transport services. Provide more opportunities and incentives for private participation in urban public transport operations. Evaluate alternatives methods for introducing targeted subsidies. Review Government policy with regard to role of NBSC and public transport fare levels.
Efficiency of public transport operations.	To reduce delays and improve public transport services through more efficient use of existing public transport services.	Implement a program of bus priority measures in Nairobi designed to improve operational efficiency of public transport vehicles.
Traffic Congestion, transport costs and demand management.	To improve operational efficiency of central and industrial area traffic systems, increase road capacity at key inter-sections and on congested links and rehabilitate secondary road networks (particularly bus routes).	Develop and implement traffic management and parking improvements, and road widening, construction and rehabilitation programs.

ISSUES	OBJECTIVES	RECOMMENDATIONS
(continued).	(continued).	Strenghen traffic enforcement methods and procedures. Develop short-, medium- and long-term traffic and demand management policies for the principal urban areas.
Road Safety.	To reduce accidents rates in urban areas.	Develop an accident reduction program for the principal urban areas which emphasizes remedial measures at blackspot locations and improved enforcement.
Municipal finance.	To increase municipal revenue mobilization and establish financing mechanisms for capital improvements and maintenance in municipal areas.	Carry out a broad evalualtion of possibilitires for improving municipal finance and develop and implement specific proposals.

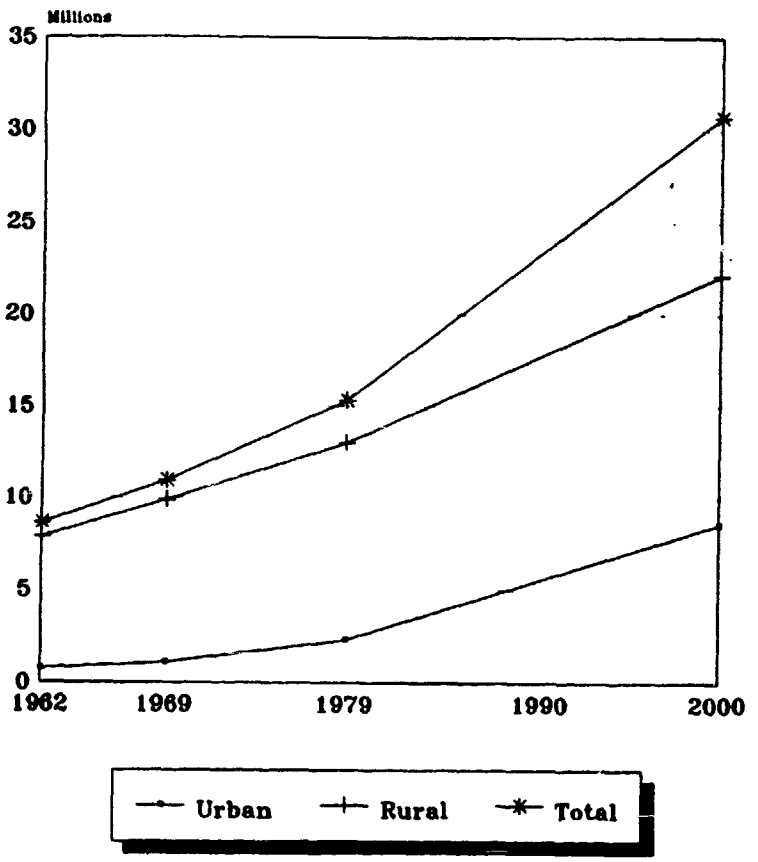
I. URBAN TRANSPORT DEMAND AND SUPPLY

1.01 Changes in demand for urban transport are directly linked to the growth in population and the economic activity and services offered in a particular urban area. The number of trips generated is also a function of demand and supply constraints. These are principally the affordability and availability of transport modes. This section analyzes the demand and supply constraints in Kenya's urban centers and draws conclusions concerning future urban transport requirements and appropriate strategies.

A. Urbanization

1.02 Urbanization in Kenya is proceeding at rapid pace. Population census results from 1962, 1969 and 1979 (Table 1.1) show that between the census years the growth in urban areas increased substantially, averaging 5.4 percent between 1962 and 1969, and reaching 7.9 percent between 1969 and 1979. This has caused the urban population to double in ten years and the proportion of population living in urban areas to increase from 9.9 percent in 1969, to 15.1 percent in 1979. Based on the last inter-census trends the urban population is expected to reach 28 percent by the year 2000. At that time, there will be 8.6 million people living in urban ares -almost twice the current urban population (see Chart 1.1).

Chart 1.1: KENYA POPULATION GROWTH
URBAN, RURAL AND TOTAL



1.03 The result of the last census showed that Kenya has been relatively successful in diverting urban growth to secondary towns - thus promoting regional equity and avoiding excessive population concentration in Nairobi and Mombasa. Although high by international standards, the intercensus growth rates in Nairobi (5.0 percent per annum) and Mombasa (3.5 percent per annum), were significantly lower than those in the secondary towns. The average growth rate for secondary towns was 7.4 percent per annum. This result provides a striking contrast to experience elsewhere in Africa where the principal cities bear the brunt of urban expansion.

1.04 The Government's policy of supporting agriculture and emphasizing the development of secondary towns has been acknowledged as appropriate, and has received the support of the international donor community. Consequently, a major share of investment in infrastructure over the past ten years has gone to rural areas and the development of rural-urban and national transport linkages. During this period, urban transport infrastructure received little attention. The Government's main concern in the urban areas has been to promote its spatial development policy and work towards fulfilling basic needs in terms of health, nutrition, education, housing, social services and water. The major value of the Government's spatial strategy is that it is drawing the secondary towns into the economic development process and supporting rural development by providing service centers to agricultural activity.

1.05 Secondary urban centers can be classified into two types: (a) existing urban centers; and (b) small rapidly expanding communities. Between 1969 and 1979 the population of the existing urban centers increased by 6.9 percent, whereas the overall expansion was measured as 7.9 percent. During this period the number of classified urban communities increased from 47 to 90. This growth is clearly shown in Table 1.2 which presents the size distribution of urban centers in 1969 and 1979. The proportion of population living in towns exceeding 100,000 fell from 70 to 57 percent over the inter-census period. This change was offset by an increase from 7 to 25 percent of towns in the range 20,000 to 100,000 population. It appears likely that this trend has continued in the 1980's with the Government's pro-rural development policies and neutral stance with regard to investment in Nairobi and Mombasa. Despite this policy, it is clear that Nairobi and Mombasa will continue to play a dominant role in the economy and that urban areas generally will continue to grow at a faster pace than the national population. The infrastructure needs of Nairobi and the other main urban centers will increase significantly as they expand.

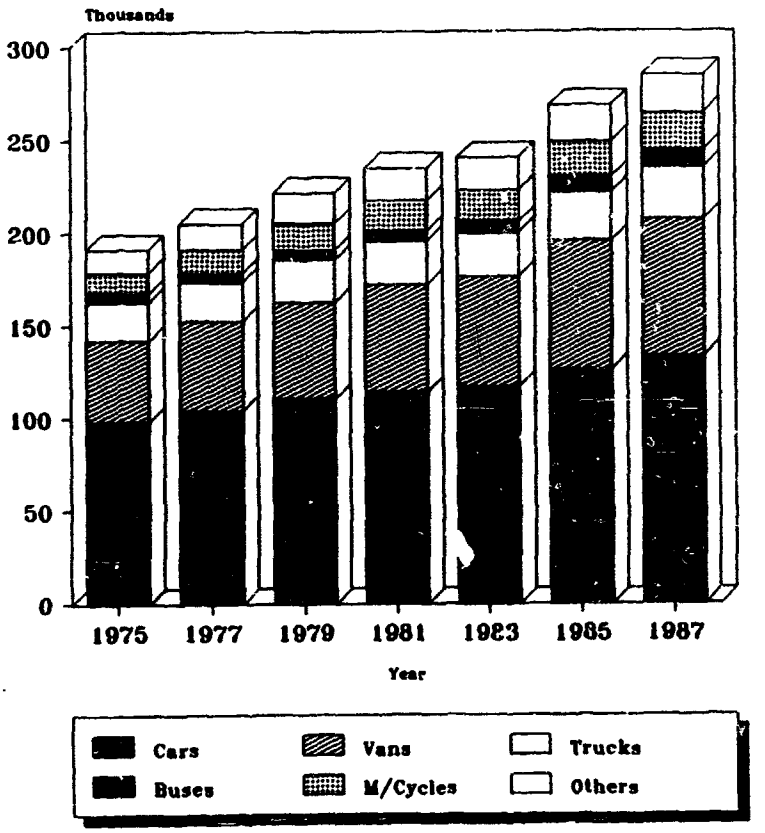
1.06 Table 1.3 provides forecasts of population for the principal urban areas for the period 1980 to 2000. These forecasts are based on the last inter-census growth rates. The accuracy of these forecasts is questionable since they are based on assumptions which may no longer be valid. The results of the 1989 census will confirm or deny the forecasts. However, these forecasts appear to give a reasonable estimate of the potential growth that may be expected in urban areas, and illustrate the dimension of the problem. Between 1990 and 2000 there will be an additional 3.9 million urban dwellers (an increase of 83 percent), equivalent to three new cities the present size of Nairobi. Finding the

resources required to develop the infrastructure for this population presents a daunting challenge - one that the central Government, on its own, will find impossible to finance. The responsibility for providing infrastructure and services will therefore mainly fall on the shoulders of the municipalities.

B. Motorization

1.07 The motor vehicle fleet in Kenya increased by 3.3 percent per annum over the past decade (Chart 1.2). In the past five years, the rate of increase fell to 2.6 percent. The highest growth rates recorded in the past five years were for buses (8.6 percent) and small utility vehicles (3.7 percent). Passenger cars had the lowest growth rate (2.2 percent).

Chart 1.2: GROWTH IN VEHICLE FLEET
MOTOR VEHICLES



This is lower than the rate of population increase and significantly less than the rate of urbanization (see Tables 1.4 to 1.8). Table 1.9 shows that the overall rate of motorization in Kenya is currently falling at a rate of 0.33 percent per annum (1980 to 1987). Car ownership is falling twice as rapidly at 0.82 percent per annum (1975 to 1987). To compensate for this lower level of motorization, the ratio of public transport vehicles to population, as a national level, has been increasing at a rate of about five percent per annum since 1980. Demand for public transport services has also been growing.

1.08 The changes that have occurred in the vehicle growth rates have had a significant effect on the vehicle fleet composition. The proportion of passenger cars decreased from 49.2 percent in 1975 to 44.9 percent in 1987 - a decrease of 8.7 percent. At the same time, the proportion of small utility vehicles and buses increased by 13.2 and 34.8 percent respectively. New passenger cars now make up about 4.7 percent of all passenger cars, whereas in 1978 almost 10 percent of the passenger car fleet was new vehicles. Conversely, 11.4 percent of buses in 1987 were new, whereas in 1978 only 7.8 percent were new. Clearly what is happening is that the private car fleet is ageing whereas the bus fleet is gradually getting younger.

1.09 Future growth of the vehicle fleet is difficult to predict, particularly if import liberalization takes place. However, if present trends are maintained, the motor vehicle fleet will comprise 414,000 vehicles in the year 2000, of which 42 percent will be private cars and 6 percent will be buses (Chart 1.3). The overall level of motorization will be lower than at present, decreasing from 14.8 to 13.5 vehicles per 1,000 population and there will be approximately 1 bus for every 1,180 inhabitants compared to about 1 bus per 2,000 in 1987. If more vehicle imports are allowed the number of private cars will increase. Public transport will still however remain the principal mode of transport for the majority of Kenyans. It will be particularly important in the larger urban areas where the majority of residents will be increasingly dependent on public transport to gain access to jobs and services as the cities expand.

C. Demand Management

1.10 Although the provision and operation of transport vehicles is essential to economic growth, it is also a major consumer of foreign exchange resources for the purchase of fuel and vehicles. The largest cost is for fuel (see Chapter III). The net value 1/ of fuel imports represented 28 percent of non-oil exports in 1987 (Table 1.10). The cost of imported vehicles and spare parts has varied between 7 and 12 percent of non-oil exports between 1983 and 1985. Government has attempted to limit spending on vehicles by closely regulating foreign exchange allocations and encouraging the growth of local vehicle assembly. This has led to protectionist policies with regard to vehicle assembly at a high cost to

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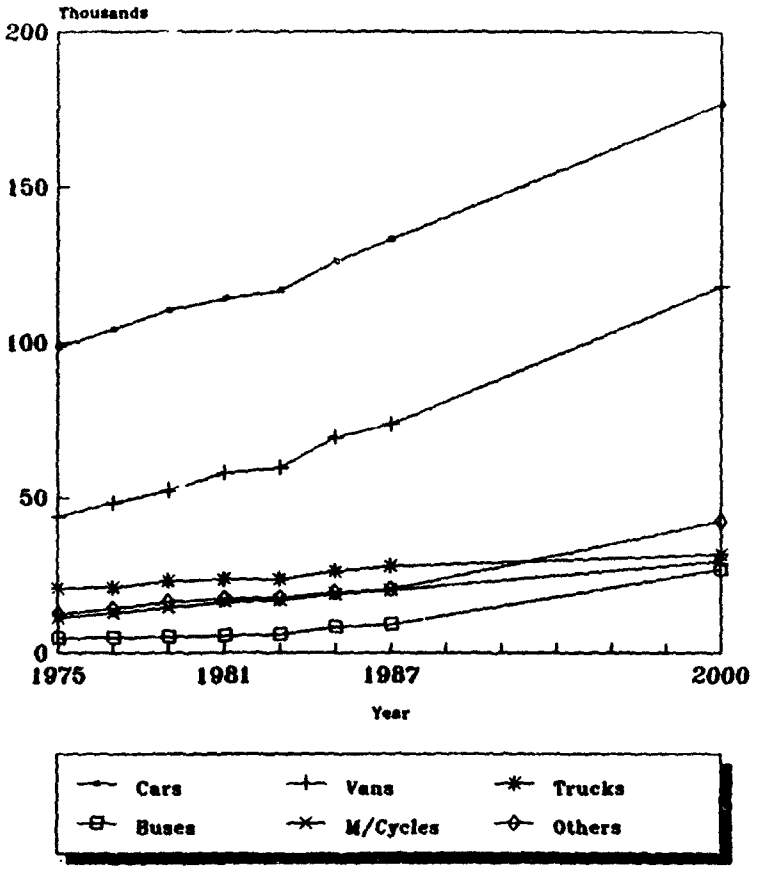
1/ Net value is equivalent to value of oil imports minus value of petroleum exports.

the economy. Approximately two thirds of new vehicles are now assembled in Kenya.

Chart 1.3: VEHICLE FLEET FORECAST



1.11 Although there are costs associated with the protection of the local vehicle assembly, the impact of the controls has meant that the vehicle fleet has only shown a modest growth. Consequently, the demand for fuel has not sky-rocketed. This policy appears to have been effective in containing costs. Evidence from research carried out in 1981 and 1982 2/ strongly suggest that it has been the constraint on vehicle imports that has contained fuel expenditures rather than fuel price increases. The research showed that the short-term price elasticity for petrol was around

2/"Effect of prices on petrol and diesel sales in Kenya", Research Report 49, 1986, Transport and Road Research Laboratory, United Kingdom.

- 0.1 and close to zero for diesel. The suggested explanation for these results is that only a small proportion of vehicles are privately owned. The research showed that private cars accounted for only 37 percent of petrol sales at filling stations. Company-owned vehicles, public buses and matatus are less susceptible to fuel price rises since the additional costs are either absorbed or passed on to consumers. Since 1982, the proportion of motor cars in the vehicle fleet has fallen and the proportion of small utility vehicles and buses has increased. This suggests that the results of the 1982 research are probably still valid today.

1.12 Because of the large cost of fuel and vehicles to the economy it is vital that these resources are used as efficiently as possible. The constraint on vehicle supply has effectively induced efficiency in the use of private vehicles. A further Transport and Road Research Laboratory report 3/ showed that in the principal urban areas 4/ average vehicle occupancy was quite high at 2.7 passengers per vehicle. This finding suggests that the opportunity for fuel conservation by increasing car journey purpose, accounting for one-third of car use. School travel, often formed part of a dual purpose trip and accounted for 6.4 percent of vehicle use. 5/ These two categories of trips (work and school-related) may be potential candidates for improving efficiency since they involve regular trips between fixed origins and destinations. Staggering of work hours and the use of school buses could reduce the peak hour traffic demands and transport costs.

1.13 Scope for further efficiency improvements appear to be greatest in Kenya's urban areas, particularly in Nairobi where approximately 47 percent of all vehicles are registered (Table 1.11). The heavy concentration of vehicles and the competition for road space and parking facilities in Nairobi has created significant congestion. On certain main roads, travel times during peak hours are estimated to be twice as long as off-peak. Congestion costs for private, public and freight trips are extremely high during these periods. Mismanagement and shortages of public parking space in the center of Nairobi also cause congestion. Considerable additional vehicle kilometers are undertaken as drivers attempt to find a place to park their vehicles (see paras 2.38 - 2.45). The heavy concentration of vehicles in urban areas (65 percent of vehicles are registered in Nairobi, Mombasa and Kisumu) also leads to numerous accidents involving foreign exchange costs for the replacement vehicles, spare parts and medical facilities and drugs to treat accident victims. (see paras. 2.49 - 2.57).

3/ "Car ownership and use in Kenya", Transport and Road Research Laboratory, United Kingdom, Research Report 48, 1986.

4/ Nairobi, Mombasa, Kisumu and Nakuru.

5/ This figure includes all four cities. The incidence of private vehicles for school trips may be higher in Nairobi than in other cities.

D. Modal Split

1.14 As previously mentioned the mode of transport that people use to go about their daily business is determined by: (a) the availability of transport modes; and (b) the affordability of the modes available. In Kenya's urban areas the majority of daily trips are on foot. Home interview surveys carried out in Nairobi 6/ and Mombasa 7/ in the early 1970's showed that more than 45 percent of trips were on foot in Nairobi and 61 percent in Mombasa (Table 1.12). The share of public transport trips was 14 percent in both cities. Bicycle trips were much higher in Mombasa (seven percent) than in Nairobi (three percent). In both cities a large proportion of walk trips were more than three kilometers. Bus utilization was heavier at the beginning and middle of the month when people had been paid, and lower at the end of the month when they did not have much money left. Residents in Nairobi expressed a preference for walking rather than cycling 8/. The average number of trips per person in Nairobi was 1.8 per day.

1.15 Data on trips to and from the central and industrial areas of Nairobi in 1979 9/ continued to show very heavy pedestrian flows (Table 1.13) and a strong reliance on public transport for trips to the central area. These heavy pedestrian movements are still in evidence in 1989. Information obtained on wages of industrial area employees suggests that many unskilled laborers receive less than the minimum wage of Ksh 700 per month. If these people were to use buses everyday the bus fares could absorb as much as 25 percent of their wage. Wages of Government staff and commercial organizations located in the central area are such that most workers can afford the bus fares. It is clear therefore that walking will continue to play a dominant role in the daily trip patterns, but that if incomes increase faster than inflation then there is likely to be a switch from walk to bus.

1.16 A further study involving households in Nairobi area was undertaken in 1981 10/. This showed a much greater proportion of trips by public transport and far fewer by car and walk modes. The reasons for these large differences in a period of about 10 years are difficult to understand and may have their roots in the choice of households and survey methods. This study does however confirm the importance of public transport and walk modes in the daily trip making of Nairobi residents.

6/ Nairobi Metropolitan Growth Strategy, Nairobi Urban Study Group, 1974.

7/ Mombasa Transportation Study, Norconsult and Wilbur Smith and Associates, 1973.

8/ Transportation Planning in Nairobi, M.C. Mogridge, Traffic Engineering and Control, January, 1975.

9/ Nairobi Urban Transport Project, City Council of Nairobi, September, 1979.

10/ The Matatu Mode of Public Transport in Metropolitan Nairobi, the Mazingira Institute, October 1982.

1.17 Although the level of vehicle ownership in Nairobi is approximately seven times higher (112 vehicles per 1,000 population) than the country average (15 vehicles per 1,000 population) the residents of Nairobi are still very dependent on public transport modes. To cope with the increasing demand, caused by large population growth, Kenya Bus Services Ltd. (KBS) rapidly expanded its fleet in Nairobi until shortly after matatus were legalized in 1975. Since the time that KBS fleet has growth by less than 3 percent (Talle 2.4). Between 1975 and 1987 the matatu fleet grew from about 700 vehicles to approximately 1,600. In 1987 the National Youth Services 11/ began operating buses in Nairobi and areplanning to expand the fleet to 150 buses by the end of 1990. KBS on the other hand is likely to reduce its fleet size due to financial difficulties.

1.18 The results of all these changes on the level of public transport supply have been estimated in Table 1.14. It appears from these estimates that the supply situation improved significantly in 1970's, but deteriorated in the 1980's. Evidence to support this analysis can be seen in Table 2.4 which shows that as conditions were improving in the 1970's the number of passengers per day on KBS buses fell from 911 to 870. During the 1980's, as the supply situation worsened the number of passengers carried per bus per day increased steadily from 870 to 1,525. The current level of supply (1,700 population per bus) is not ideal, but compares well with other African cities 12/. The reduction in size of the KBS fleet will worsen the overall situation in the short-term. However, the expansion plans of the Nyayo bus fleet to approximately 300 buses in Nairobi should improve the overall study situation over the period 1990 to 1992. The suburban trains in Nairobi carry a negligible proportion of the total daily trips.

11/ To be operated as the Nyayo Bus Service Corporation in 1989.

12/ Ideally the population per bus should be of the order of 1,200 to 1,500. The ratio for African cities lies in the range 1,500 to 2,500.

II. PLANNING AND MANAGEMENT OF URBAN TRANSPORT

A. Urban Transport Planning

2.01 Urban transport planning as a continuing and integrated process is not carried out in Kenya. A comprehensive urban transport plan was developed as part of the Metropolitan Growth Strategy for Nairobi in 1974. This was the last time that any in-depth analysis of urban transport demand was carried out. In the intervening period the population of Nairobi has doubled and development has taken place with very little investment in roads. The impact is clearly visible in terms of traffic congestion. Considerable densification of the central area has taken place in the past ten years without consideration of transport needs. This has led to a severe under-supply of parking space and lack of capacity on the road network. Public transport supply has not kept pace with population growth. Much could be done to improve the efficiency and capacity of the Nairobi transport system through traffic management, the provision of segregated busways, selective road widening and construction of missing links in the road network.

2.02 If past trends continue the population of Nairobi will increase by one million by the turn of the century. A strategy to deal with all aspects of this growth is urgently needed. This could best be achieved through a detailed review and update of the Metropolitan Growth Strategy. 1/ This review should pay particular attention to the transport capacity constraints of the central area and the development of district centers which would relieve pressures in the city center. In other urban centers the capacity of road networks is sufficient to handle peak flows, but lack of by-pass routes for heavy goods vehicles is causing environmental, maintenance and safety problems on the central area roads.

B. Public Transport

2.03 Up until 1986 the operation of urban public transport services was the exclusive concern of the private sector. Kenya Bus Services (KBS) operate in Nairobi and Mombasa. 2/ Small private operators provided minibus services (matatus) within urban centers, and country bus operators, and matatus, provided services between urban centers and surrounding rural communities.

2.04 In 1986 the Government of Kenya took a decision to intervene in the sector. This decision came about because KBS withdrew its buses from the peri-urban routes in Nairobi. KBS took this action in protest over a long-standing Government decision not to allow standing passengers on buses operating beyond Nairobi's boundaries. KBS wanted to allow standing passengers to improve the return on these loss-making services. This action provoked a crisis which Government reacted to very quickly. Committees were

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1/ This should preferably be undertaken after the results of the August 1989 national census are available.

2/ Including ferry services in Mombasa.

set up to look into the future transportation needs of Nairobi and the surrounding areas. As a result of these deliberations a suburban passenger train service was quickly established between Nairobi and Thika, and Nairobi and Limuru, and the idea of creating the "Nyayo" bus system, to be managed by the National Youth Service, was conceived.

2.05 The Government also decided at that time to look into the possibility of introducing other urban transport modes in the future. Various options were evaluated. 3/ The favored option, a system of busways with articulated buses, is now under detailed study by a Belgian firm of consultants and a draft final report will be published at the end of 1989. The busway proposals are very similar to previous plans prepared for the Nairobi Urban Transport Project 4/ and would assist considerably in improving the operational efficiency of public transport vehicles in Nairobi.

The Private Sector

2.06 Kenya Bus Services: KBS, a privately owned company, with 75 per cent foreign ownership has been operating buses in Nairobi since 1950. The company has a franchise agreement with Nairobi City Commission which owns 25 per cent of the company 5/. United Transport International (UTI), the foreign owners of the company, have made a policy decision to divest themselves of the ownership of public bus companies in Africa 6/. They are currently considering how this might be achieved in Kenya with minimal impact to the public. Included in their program of divestiture would be KBS (Mombasa). The reasons for this decision stem from the increasingly difficult operating conditions and declining profits of their public bus operations in Africa. In Kenya, the Nairobi operation, has recently seen its profits turn into a loss (Table 2.1), whereas KBS (Mombasa) continues to make modest profits on its bus and ferry operations (Table 2.2). The current demise of KBS in Nairobi stems from a number of factors, including Government decisions concerning competitive services and fare levels.

3/ "Study of Urban Transport Needs of Nairobi", Transurb Consult, April 1986.

4/ This project, proposed for funding by the World Bank was prepared during 1979/80, but was never implemented because of a lack of counterpart funding.

5/ The franchise agreement expired on December 31, 1985 and is currently being renewed on a quarterly basis.

6/ UTI have been operating public bus systems in Kenya, Zimbabwe and Malawi.

2.07 The KBS franchise agreement in Nairobi provided exclusive operating rights for all vehicles carrying more than seven passengers. This agreement was over-ruled by the central Government in 1973 and again in 1986. In 1973, the Government legalized the use of small privately operated vehicles, known as matatus 7/. These vehicles now operate throughout the country and carry approximately 44 per cent of all bus passenger trips in Nairobi. Matatus generally charge the same fares as KBS and operate wherever they wish - mostly along the principal KBS routes. In 1986 the National Youth Service, under the direction of the Office of the President, began operating bus services focussing initially on Kenya's urban areas. The majority of buses used by the NYS have either been provided under bilateral grant arrangements or through soft loans. This operation is to be formalized by the setting up of a parastatal to be called the Nyayo Bus Service Corporation (NBSC). The operation of the NBSC was gazetted in July 1988, but had not been constituted at the time of the sector mission. The National Youth Service operate peak hour services in a number of cities including Nairobi. NYS fare levels in Nairobi are currently about 15 per cent below those charged by KBS.

2.08 All bus fares in Kenya are regulated by central Government. In recent years the fares applications by KBS have been inadequate and subject to considerable delays 8/, 9/. At the same time costs have been increasing

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7/ The word matatu comes from the swahili "mang'otore matatu" meaning thirty cents, the flat fare that used to be charged in the early days of matatu service.

8/ History of the last two fares increases:

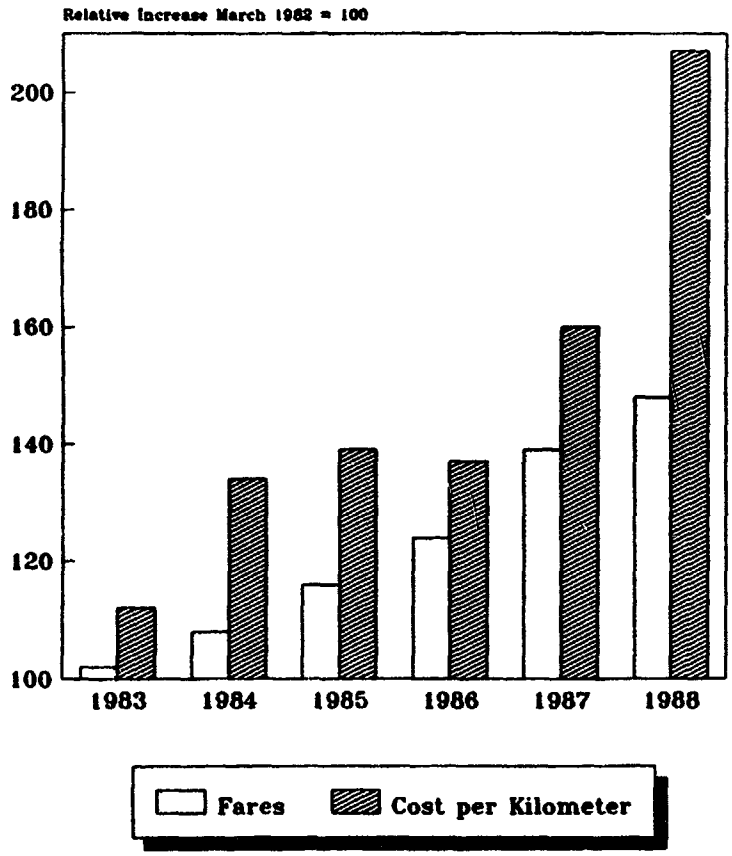
November 1985, an application was submitted for an increase of US$ 0.50 on the maximum ceiling of the approved fare structure - July 1986 a US$ 0.25 average fare increase was approved. The increase was not fully implemented until March 1987. A nine month delay in approval and only 50 percent of the increase approved.

September 1987, an application was submitted for an increase of Ksh 1.00 on the maximum ceiling of the approved fare structure - August a US$ 0.20 average fare increase was approved and implemented. A 12 month delay in approval and only 20 percent of the increase approved.

9/ The average fare charged by KBS in January 1989 was Ksh 2.80 (US$ 15) for a trip of about 10-12 kilometers.

significantly. As a result average fares, in nominal terms, increased by 42 percent between 1982 and 1988, but bus operating costs increased by 108 percent (Chart 2.1). This unfavorable situation is reflected in the company's financial accounts (Table 2.1). The company has seen its profits diminish gradually over a period of years and in 1987/88 recorded a small loss. This loss has persisted and grown during 1988/89. The company has been forced to borrow to finance its day-to-day operations. Projections for the period 1988/89 to 1990/91 based on current trends show a significantly worsening financial situation which will be unsustainable. Cut backs in expenses through the withdrawal of non-profit making services will probably be necessary. Maintenance costs are also likely to be reduced by retiring the oldest elements of the ageing fleet.

Chart 2.1: FARES AND COST INCREASES
KENYA BUS SERVICES NAIROBI



2.09 Comparisons of performance indicators for KBS in Nairobi and Mombasa with accepted international norms show these companies to be efficient and well managed (Table 2.3). Their results are also amongst the best of the large bus companies in Africa. The company has been able to make sufficient profits on the main routes to cross-subsidize other less profitable routes (social services). The route structure of KBS has evolved in line with spatial development, but the growth of the vehicle fleet in recent years has not been kept pace with growth in demand.

2.10 Matatus: Privately operated vehicles of various types have been providing passenger services in Nairobi since the 1960's. At that time they were known as pirate taxis and were regularly hounded by the police since they were in breach of the KBS operating franchise. In 1973, the President declared matatus to be a legal form of public transport and could carry fare paying passengers without having a Public Service Vehicle license. Subsequently, the numbers of matatus grew rapidly in Nairobi, expanding from 375 vehicles in 1973 to more than 1,500 in 1979. The matatus market share of public transport passengers, increased correspondingly from about 16 percent in 1973 to about 40 percent in 1979. Since then it has stabilized at about 44 percent with approximately 1,600 vehicles. During this period the financial position of KBS deteriorated and the hitherto rapid expansion of the KBS bus fleet slowed down considerably (Table 2.4).

2.11 The Matatu Vehicle Owners Association achieved status as a nationally recognized body in 1982 and began to organize its members into route associations. It also began to seek from the central and local Government certain rights for its members. This resulted in: (a) the development of Bye-Laws for the operation of matatus within the Nairobi City Commission boundaries; and (b) the Traffic Amendment (Matatu) Act which defined the matatu as a Public Service Vehicle and set an upper limit to its size of 25 seats. From this period matatus were provided with defined loading areas in the city center and the number of larger matatus began to increase. Gradually also, the quality of the matatu vehicle fleet in Nairobi began to improve. The Matatu Owner's Association pushed forward with proposals to discipline operators so that both vehicles and passengers were encouraged to form queues. This has led to improved operations. For various reasons the Government de-registered the Matatu Owners Association in 1988 indicating that from henceforth operators would look after their own affairs on an individual basis.

2.12 The physical improvement in the vehicle fleet and the increased numbers of vehicles operating in Nairobi reflects the good financial return that investors obtain from the purchase and operation of matatu vehicles. A detailed study in 1982 10/ showed that the annual rate of return on a matatu vehicle was between 45 and 55 percent for a 2 to 3 year life. Mission estimates of the return on capital based on interviews with Matatu operators in 1989 confirm similar results and that the sector is still attractive to the investor (Table 2.5). Most matatus are owned by private individuals and operated by drivers who are wage earners. Financing from Banks to purchase new vehicles appears to be readily available. The

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10/ "The Matatu Mode of Public Transport in Metropolitan Nairobi", Mazingira Institute, 1982.

principal problems with the matatu operations are: (a) poor quality and maintenance of older vehicles; (b) reckless driving; and (c) overcrowding of vehicles.

2.13 Taxis: Regular taxis operate in most cities and are organized through officially registered taxi cab associations. Fares are regulated by Government. The taxis operate without meters according to a schedule of charges based on distance. Charges are approximately 8 Ksh per kilometer. Although the mission did not get detailed information on the operating costs of taxis it is clear that they are not as profitable as matatus. There are currently 538 taxis in Nairobi the majority of which are quite old. Six new London taxi cabs began operating in late 1988 on a trial basis. These vehicles mainly serve the international hotels. Charges for these vehicles are 13 Ksh per kilometer. More of these vehicles may be introduced if they are found to be suitable and adequate financing can be arranged.

2.14 Ferry Services: KBS (Mombasa) operates ferry services from the Island to the Southern Mainland. There are three vehicular ferries at Likoni and two passenger launches at Mtongwe. Two of the vehicle ferries are more than 20 years old and have almost reached the end of their useful life. The third ferry is about 14 years old. The two newer ferries have about twice the capacity of the oldest vessel (Table 2.6).

2.15 The vehicular ferries operate a 24-hour service with an average round trip time of 20 minutes and 190 trips per day. Average breakdowns per month are four, reflecting the age of the fleet. Provision is made under the franchise agreement with the Municipality for all pedestrians on the ferries and launches to travel free of charge. The company receives an annual subsidy from the Municipality to cover the charges of this operation. The principles behind the subsidy payments were agreed in 1966 and payments have not reflected the growth in pedestrian traffic since then. Current vehicle tolls (effective October 1988) vary with type and size of vehicle (Table 2.7).

2.16 Vehicular traffic growth on the ferries has reduced significantly in recent years to about two percent per annum (Table 2.8). Pedestrian traffic on the other hand has maintained a high growth rate. The lower growth rates for vehicular traffic in the 1980's reflects the drop in international traffic from Tanzania. Traffic is now largely local, going to and from the island of Mombasa to the rapidly urbanizing South Mainland. Total vehicles carried in 1986 remained below the 1980 level, although they have since picked up. Pedestrian traffic has grown at astounding rates, and there is excessive loading during peak periods. About 3.8 million pedestrians used the ferries and launches in 1965. The current figure exceeds 26 million.

2.17 A number of critical investment issues currently surround the operation of the Mombasa vehicular ferries. One of the ferries requires replacement at a cost of about K£ 1.5 millions (US$ 1.7 million). Existing tolls are not high enough to finance this purchase. Additionally the Island and Mainland ferry ramps are in extremely poor condition. The condition of the ramps below sea level are such that operations may soon have to be suspended at low tide for fear of serious damage to the ferry hulls. The

estimated cost of this work with associated improvements to the berthing facilities is about K£ 1.5 millions. Responsibility for these repairs seems unclear and it may be necessary for central Government to finance them.

2.18 Over the years various solutions have been considered for replacing the ferry at Likoni with a fixed crossing. These have included a high level bridge, a tunnel and a causeway. A Japanese feasibility study in 1984 estimated a bridge would cost K£ 70 millions (US$ 75 million) and would need to be 73.2 meters above high water to allow shipping access to Mombasa port. This solution was found to be uneconomic and too expensive. A tunnel was found to be even more costly and unjustified. Currently under consideration is a causeway to the south and west of Mombasa port. The causeway, together with associated roads would be about 16 km in length. This proposal is being considered for external financing and bilateral agencies are interested in carrying out the feasibility study. Ideally such studies should take account of the developmental impact of the causeway which could act as a spur to the development of the south mainland.

2.19 If the causeway is built it would obviate the need for substantial ferry improvements. If the causeway is not built, the ferries will be forced to operate a reduced service from 1990 onwards, unless investment in the slipways and vessels is forthcoming. This is a time for important decisions over the ferry operations which, if not properly addressed, could lead to substantial delays and inconvenience for travellers. The Ministry of Transport and Communications are currently discussing with UTI for the transfer of the ferry operation. If an agreement is reached the ferries would be operated by the port authority.

The Public Sector

2.20 Nyayo Bus Services Corporation: The National Youth Service (NYS) has been operating commuter bus services since October 1986. Initially buses were only operated in Nairobi. However, rapid expansion of the Nyayo bus fleet and high demand for urban services has led the NYS to operate commuter services in several other cities. There are currently 67 buses in Nairobi, five in Mombasa, 17 in Kisumu, 10 in Eldoret and a handful in other towns. The initial fleet of 46 buses was purchased by Government between October 1986 and August 1987. Subsequently, the fleet was expanded by grant aid or soft loans to 156 buses by September 1988 11/. The urban services provided by NYS are filling an important gap in urban public transport supply. Outside Nairobi and Mombasa there were no public bus services before NYS began operating. All transport needs in these towns were provided by matatus and country buses. NYS bus services are considered an important nation building exercise and the staff are dedicated and enthusiastic about their role in the operation.

2.21 To date, maintenance arrangements for the NYS bus fleet have been extremely inadequate. That situation is unlikely to change in the near future. Although a new depot costing K£ 30 million (US$ 33 million) will be

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11/ Italy provided 50 buses as a grant in March 1988 and a further 50 buses under soft loan arrangements between July and September 1988. Belgium provided 10 buses as a grant in May 1989.

opened in March 1989, equipment for the depot, costing K£ 4.5 million will not be available for several months. A new depot is also planned for Kisumu. The site in Kisumu has been obtained, and work is starting on the construction of the depot. Major spares are kept in Nairobi and transported to the satellite operations as and when necessary. This unsatisfactory situation leads to long delays in servicing. These delays are particularly important when major repairs need to be carried since the buses have to be towed to Nairobi for repair. The Nyayo bus fleet is mainly composed of DAF (58 seated and 50 standing passengers) and IVECO buses (32 seated and 45 standing passengers). The new depot in Nairobi has a hard standing for 400 vehicles and substantial structures for workshops, stores, washing facilities and staff training. This new depot will provide the base from which NYS will develop and grow. It is planned that the Nyayo Bus Services Corporation (an official Government parastatal 12/) will absorb the NYS operation in the near future and will expand its fleet to 510 buses by the end of 1990. Seventy percent of the fleet (360 buses) will be based in Nairobi and the balance will be distributed around the other urban centers. NYS has 580 staff currently working on bus operations and an approved establishment of 1,116.

2.22 Whilst the management of the National Youth Service have performed admirably in getting the operation started they are now faced with a formidable task - that of managing one of the largest and fastest growing bus fleets in Africa. With no previous experience in this complex and demanding field there will be many potential pitfalls to negotiate and critical management decisions to be made that will impact on the financial performance of the company. Bus company para-statals operating in urban areas are notorious throughout Africa for incurring large financial losses requiring heavy Government subsidies 13/. The potential for a repetition of such performances in Kenya is high. It is clear that NBSC management desperately needs to improve management procedures, financial controls and staff training. Very little information is currently available on operating and financial indicators for the NYS services. Without a strong management team NBSC could find itself running into operational and financial difficulties. It is imperative that NBSC focuses on the rationalization of maintenance procedures and develops a strong commercial outlook from the start if it is to provide efficient and cost effective services.

2.23 The financial standing of the NYS bus operation gives rise to considerable concern. The Government is currently embarked on a perilous course of action. The present accounting methods disregard the cost of capital. Some overhead expenses are not included in the balance sheet (wages are paid out of Government allocations) and fuel is purchased tax-free. Consequently, accounting is done on a cash basis and the full costs of the operation are not known. This method of accounting shows the NYS operation to be profitable (Table 2.9). These accounting methods present a

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12/ Annex 1 contains a copy of the "Nyayo Bus Service Corporation Order, 1989", Legal Notice No.297, Gazette Supplement No. 39, 22 July 1988.

13/ See "Urban Transport in West Africa", World Bank Technical Paper Number 81, April 1988.

dangerously false situation which is being used to justify unrealistic fare levels. The existing fares of NYS services undercut KBS and the Matatus by as much as 15 percent. 14/ As the NYS fleet expands and services grow, the cheaper fares will attract more customers. The two competitors, KBS and matatus, will find their profit margins reducing. If this situation continues for a long period it will lead to the eventual disintegration of KBS and the flight of capital from matatu operations, leaving the Government with a public transport monopoly and potentially important subsidies. Mission estimates of profit and loss accounts for the current and projected operation (Table 2.10) show that NBSC will find it virtually impossible at the current level of fares to make a profit after making allowance for its capital charges. The mission estimated that the losses in FY90/91 could reach K£ 2.1 million. Even if the debt/equity assumption is relaxed to one hundred percent equity, so that there is no interest charge, depreciation will be large enough to create a loss. For NBSC to break even in 1990/91 the average fare would need to be increased by roughly Ksh 0.50, which is the amount that NYS are currently undercutting KBS fares.

2.24 Kenya National Railways: Kenya Railways were directed by Government to begin operating commuter train services in August 1986, following the threat by KBS to pull out of peri-urban routes. Originally, two lines were operated between Limuru and Nairobi (47.2 kilometers) and Thika and Nairobi (62.0 kilometers). These services were cut back in the following November due to lack of patronage and high costs. The current service consists of two trains during the peak commuting hours in the morning and evening. One train links Dagoretti with Nairobi and Makadara (24 kilometers with five stations or halts), the other links Kahawa with Makadara and Nairobi (24 kilometers with seven stations or halts). Each line consists of a single track and is also used by long-distance freight and passenger trains. The morning trains bound for Nairobi leave Dagoretti at 6:30 a.m. and Kahawa at 6:20 a.m. They return in the evening, leaving Nairobi at 18:30 p.m. and 17:30 p.m. respectively. The commercial speed of the service is low at about 20 km/hr. Two locomotives and 14 third class coaches are reserved for these services, although not all the rolling stock is always available. Each train (comprising seven carriages) has a seating capacity for 600 people. Approximately twice this number of passengers are standees. These coaches are not suitable for this type of service. Because of line constraints and scheduling of other services it would be difficult for the existing trains to make two round trips in a peak hour. It is also difficult for the commuter locomotives and coaches to be used for other services during the day. Consequently, the utilization of these trains is very inefficient.

2.25 Ticket sales indicate that there are between 90,000 and 100,000 passengers on the two lines each month. Because of crowding and lack of ticketing facilities probably one third of passengers travel free of

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14/ Other factors which need to be taken into account are: (a) the current NYS fleet is comprised of new vehicles. Maintenance costs will rise significantly as the fleet ages; (b) there can be no assurance that grant aided buses will continue to be supplied. It would be most prudent to make early provision for future fleet replacement and expansion, rather than rely on donor support.

charge 15/. In total there are approximately 3,500 passengers travelling during the peak periods or approximately 1,750 passengers per train. Fares range between Ksh 2 and 4 depending on distance. Revenues from these services fail to cover costs. According to figures provided by Kenya National Railways over a 12 month period from October 1, 1987 to September 30, 1988 the commuter train service carried 992,618 passengers, collected Ksh 2.37 million in revenues and cost Ksh 13.59 million to operate (Table 2.11). 16/ The commuter train service therefore required an annual subsidy of approximately Ksh 11.22 million or US$ 605,000. 17/ 18/ These rail services, which transport one percent of daily trips in Nairobi, could be provided more cheaply and more effectively by about 15 buses. In addition the Kenya Railways locomotives and rolling stock assigned to these services could be used more cost effectively on other passenger operations. Early consideration should therefore be given to abandoning these loss-making suburban train services.

C. Road Network

2.26 Road Network Development: 19/: Kenya's road network comprises 63,000 kilometers, of which 7,100 kilometers are bitumenized, 26,300 kilometers are gravel and 29,600 kilometers are earth. Urban roads represent approximately 6 percent (4,000 kilometers) of the total 20/. Almost 50 percent of urban roads are in Nairobi. Municipalities are responsible for the maintenance of all urban roads except those forming part of the national trunk road network. The road maintenance activities of the municipal engineering departments are limited by lack of equipment and funds. The majority of all secondary road construction and periodic

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15/ Stations on the line are not designed for commuter use and passengers can easily board without buying a ticket. Some of the stops are simply halts with no facilities at all. Consequently, tickets are sold on the train. The crowded conditions on the train make it difficult for ticket sellers to make sure all passengers have tickets.

16/ The cost per passenger kilometer is - Ksh 0.91 (US$ 0.049). This can be compared with costs of Ksh 0.25 (US$ 0.014) for matatus and Ksh 0.55 (US$ 0.029) for buses.

17/ The unit costs that were used to obtain the operating cost of the commuter services have recently been reviewed. The new cost estimates are not yet available.

18/ These passenger flows could be carried by approximately 15 standard buses at a much lower cost.

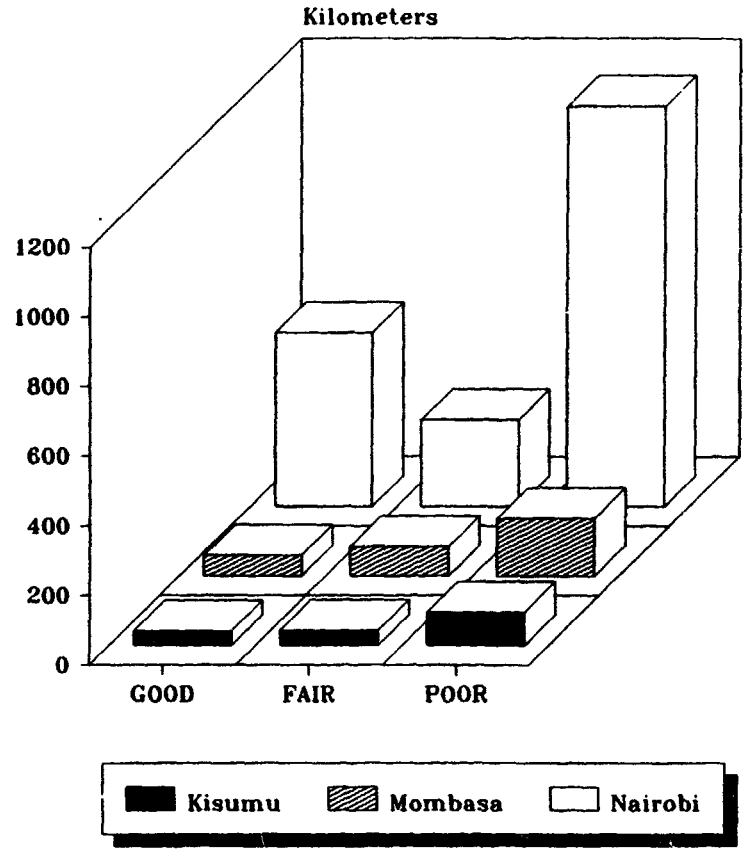
19/ The information and data contained in this section was obtained during visits to the three largest Municipalities, Nairobi, Mombasa and Kisumu. Detailed discussions were held with engineers and other senior officials in all three Municipalities. The road network and maintenance facilities were inspected by an experienced road engineer.

20/ Mission estimate for the three principal cities based on Table 2.12 An average of approximately 75 kilometers has been assumed in 20 other towns.

maintenance is carried out by contractors. The local engineering departments mainly focus on routine maintenance. The Ministry of Public Works is responsible for the maintenance of trunk roads. In some cases work is carried out by Municipalities on an agency basis using central Government funds. Capital investment in urban roads over the past 5-10 years by both central and local Governments has been minimal. (See paras. 3.10 and 3.21).

2.27 Road Maintenance: Urban roads have deteriorated significantly in recent years. This is the result of more than ten years of neglect of regular and periodic maintenance. Financial allocations for maintenance in the principal urban centers have been running at around one-fifth to one-tenth of the requirements over this period. It is estimated that only 24 percent of the total road network in Nairobi, Mombasa and Kisumu is in good condition and that 56 percent is in poor condition (Chart 2.2 and Table 2.12). Approximately half the roads in poor condition require major

Chart 2.2: ROAD CONDITIONS
IN NAIROBI, MOMBASA AND KISUMU



rehabilitation to bring them into a maintainable condition. If the present level of funding is not increased the situation will deteriorate quickly since many of the roads are reaching the end of their useful life. 21/ The cost of eliminating the road maintenance backlog in the three principal cities and re-equipping these Municipalities with maintenance equipment has been estimated at about US$ 120 million (see Table 5.1). Based on the per capita costs in Kisumu, it is estimated that a further US$ 70 million is necessary to improve roads in the other 13 urban areas over 50,000 population.

2.28 The inadequate funding in the sector has meant that the majority of secondary urban roads have not received any maintenance whatsoever in more than ten years and are in a very poor condition. The impact of these conditions on vehicle operating costs is significant both in terms of wear and tear and delays due to low speeds. Some of the principal bus routes in low income areas are almost impassible during the rainy seasons. By contrast, the main trunk road network, which is funded by central Government is in much better shape.

2.29 The poor funding situation has also had a deleterious effect on the Municipalities maintenance capabilities. Maintenance plant and equipment is either very old or has fallen into disrepair. Broken equipment can stand idle for months awaiting funds to purchase spare parts. When the equipment finally is no longer serviceable it has not been replaced. Consequently, Municipal maintenance yards do not have enough equipment to even cope with routine maintenance. The uncertain financial situation also means that maintenance is often targeted at solving crisis situations rather than preventing them. Crisis management also means that work programs cannot be kept. Consequently, regular maintenance programs are not prepared because they have little chance of being implemented.

2.30 Budget constraints have also had an impact on the level of staffing of the City Engineer's Departments. In Nairobi it is estimated that only 46 percent of professional and semi-professional posts are filled (Table 2.13). Conditions of employment are no longer attractive enough to ensure adequate quality and quantity of staff. At lower staff levels only 20 percent of posts are filled and the average age of staff is increasing since new recruitment is not taking place. There is a general feeling of frustration at all levels due to the inability of the organizations to perform their assigned duties.

2.31 Other issues which are having a significant impact on maintenance needs are overloading and road inadequate construction standards. The first issue is of national importance and should be addressed through the appropriate Ministry. The second issue falls within the domain of the Municipalities. With scarce financial resources the temptation to cut back on standards in order to build more roads is politically appealing. However, the results of such actions, which can be seen in some new housing

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21/ In Kisumu lack of funding has meant that housing developments have been undertaken without the construction of roads. There is an estimated backlog of 120 kilometers of road that need to be constructed to serve existing urbanized areas.

schemes, are premature deterioration, sometimes within a period of two to three years.

2.32 Traffic Management: The basic quality of traffic engineering design and traffic management in Nairobi is very good. This is due in no small measure to the Transportation Unit which forms part of the City Engineer's Department in the Nairobi City Commission. This Unit was set up in 1979/80 and participated fully in the preparation of an Urban Transport Project for Nairobi in 1979/80. At the end of March 1989 there were 30 signal controlled intersections in Nairobi. Traffic signals are well maintained and the City Commission has introduced signal control at 11 new intersections since 1986. These improvements were funded through a loan under a German aid program. The City Commission are currently discussing a second aid package with the German Government which would provide for the signalization of a further 12 intersections. All signal installations in the center of Nairobi are controlled by a central computer which has a capacity of 80 intersections.

2.33 Traffic signs and markings are reasonably well maintained and the Transportation Unit is active in trying to promote smooth traffic flow and minimize accident hazards. The Unit liaises closely with public transport operators and assists in the organization and provision of stopping places and unloading zones. Although the Unit controls the operation of parking meters and car parks, it has little impact on parking policy, fee collection and enforcement (see paras. 2.38-2.45).

2.34 Nairobi suffers from acute traffic congestion at peak periods. Traffic delays are concentrated in the central area, the industrial and area and on the approaches to these two areas. The problems of traffic congestion are mainly due to: (a) lack of capacity at critical intersections and along specific sections of road; (b) poor parking controls and enforcement; and (c) lack of traffic management measures. Inadequate by-pass routes around the central area, poor access to the industrial area and missing links in the western suburbs also contribute to the high levels of peak hour congestion. Poor road surface conditions on the secondary road network cause delays to all traffic. Buses are particularly affected by the traffic congestion in the central area and the poor quality of secondary roads.

2.36 One possible relief giving solution that has often been discussed in Nairobi is staggering of work hours. However, no serious studies have been carried out to determine the possible impact of such measures. Traffic congestion in other urban centers is relatively limited. The traffic problems in Mombasa and Kisumu are mostly linked to poor road pavement conditions and inadequate parking arrangements in the central area. There are four sets of traffic signals in Mombasa and none in Kisumu. Both cities could benefit from traffic management schemes and the introduction of four or five sets of traffic signals.

2.37 Surveys carried out as part of the project preparation studies in Nairobi in 1979 showed that 67 percent of inbound traffic to the central area during the morning peak period was through traffic. Approximately, 10 percent of the through movements involved vehicles exiting at the same point which they entered the central area. This data together with the

surveys of vehicle usage carried out by the Transport and Road Research Laboratory show that the private car is very often used as a taxi for family members or friends and that a high proportion of trips have more than one purpose. Of particular significance are joint journey to work and school trips. Although there is no specific data to confirm the precise importance of school traffic, when schools are on holiday many drivers indicate that journey times during peak hours are considerably improved.

2.38 Parking: The planning, management and control of parking spaces in the center of Nairobi poses significant problems. The root of these problems derives from the lack of a well defined and appropriate parking policy. The principal problems are: (a) lack of public parking space; (b) inadequate pricing; (c) lack of enforcement of parking regulations; (d) inadequate legal framework for enforcement of parking controls; and (e) poor maintenance of parking meter equipment. In addition the management of parking meters is unduly complicated because of deeply fragmented responsibilities within the Nairobi City Commission.

2.39 The number of legal parking spaces 22/ in the center of Nairobi increased from 14,491 in 1972 to 15,278 in 1979 (5%) and the amount of illegal parking increased from 1,235 to 2,331 (89%) (Table 2.14). Since that time the number of parking spaces has increased marginally, but illegal parking is now much worse than it was in 1979. The current disregard for parking regulations causes severe congestion in the central area. A significant factor in this worsening situation is the lack of public off-street car parks 23/. The number of public off-street parking spaces decreased from 3,288 to 2,305 between 1972 and 1979. By 1987 this number had further reduced to 1,316 (Table 2.15). Currently, less than 16 percent of off-street parking is available to the general public. This totally unsatisfactory situation has come about because of a lack of commitment to a parking policy. Seven out of the 19 off-street parking areas available in 1972 have been allocated to developers by the Commissioner of Lands. If the decrease in public off-street parking spaces continues at the same rate there will be no public off-street spaces available in the year 2000.

2.40 The on-street parking situation is also unsatisfactory. Thirty percent of the 2,720 parking meters in the center of Nairobi are out of action due to lack of spare parts, technicians and transport. Consequently, the number of faulty meters is increasing steadily. Parking at these faulty meters cannot be controlled; so motorists can park there all day at no charge. Many of those parking at working meters also disregard the time limit. This is because the parking tickets issued by the parking wardens are not backed up by effective legal action. More than two thirds of the

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22/ Parking meters, un-metered street spaces without parking restrictions, off-street car parks (private and public) and private non-residential parking.

23/ All private off-street car parks are either rented out by the month or are reserved for private companies or Government agencies. Consequently, they are not available for the general public.

120,000 parking tickets issued in 1988 were not paid and no court action was taken (Table 2.16).

2.41 The parking situation is further complicated by the inappropriate enforcement regulations. Parking wardens employed by the Nairobi City Commission can only issue parking tickets for vehicles which overstay at parking meters. They have no powers to issue parking tickets to vehicles that are illegally parked (on a yellow line or double parked). The traffic police can enforce parking restrictions, but make hardly any attempt to do so. This is partly due to the lack of towing vehicles, but also a lack of political will to deal with the problem. The police are planning on introducing wheel clamps to deter parking offenders. This will require new legislation. Such a system could also go a long way to improving enforcement at parking meters, since it would be necessary for the driver of the clamped vehicle to pay his fine before the vehicle is released.

2.42 The pricing of public parking is also an issue. Parking charges were doubled in 1988. Off-street car parking was increased from Ksh 3.50 to Ksh 7.00 per day (US$ 0.38) and parking meter charges were raised from Ksh 2.00 to Ksh 4.00 per hour. These daily charges for off-street parking are extremely low compared to private parking garages. 24/. The new rates require modifications to the meters which are gradually being implemented. Lack of staff and equipment makes this a slow process. The fine for over staying at a parking meter is also low at Ksh 60. Considerable revenues are lost from the broken meters and leakage during the collection process. It is estimated that about Ksh 5 million (US$ 270,000) are lost each year from the broken meters (at the new rates) 25/. Prior to the increase in parking charges the Transportation Unit estimated that approximately Ksh 2 million was lost each year due to the use of foreign coins, faulty mechanisms, slow maintenance and general leakage. This amount will have increased with the increase in charges. A plan to completely cover the central area with meters has been proposed for several years. This would increase the number of metered spaces by 2,570. Revenue from this source could amount to Ksh 8-10 million 26/.

2.43 Ironically, if enforcement of parking is improved to the point that only 10 percent of the present number of tickets are issued, the net impact on the present situation would be a 25-35 percent reduction in total revenues (the increase in revenues from meters would not offset the reduction of the amount collected in voluntary payment of fines). However, if in addition broken meters were repaired and the meter zone expanded, existing revenues would increase by about by 67 percent. Total revenues

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24/ Private off-street parking which is only available on a monthly basis currently costs Ksh 1,300 per month. This is equivalent to approximately Ksh 60 per working day.

25/ Charge Ksh 4 per hour, six hours per day, five days per week, and 52 weeks per year and 824 broken meters = Ksh 5.14 million

26/ Charge Ksh 4 per hour, four hours per day (reduced figure due to meters being on periphery of center), five days per week, and 52 weeks per year and 2,569 new meters = Ksh 10.68 million

with a completely improved and expanded system using present charges could amount to Ksh 17 million per year. Operating costs would be of the order of Ksh 3-4 million. Estimated costs for: (a) repairing the broken meters; and (b) introducing 2,570 new meters are approximately Ksh 3 million (US$ 162,000) and Ksh 38 million (US$ 2.1 million) respectively.

2.44 An effective parking policy and action program are urgently needed in Nairobi. The policy must have the full support of both local and central Government if it is to be successful. This can only be done through strong central coordination and policy control. The policy should make provision for: (a) increasing public off-street parking spaces; (b) improving enforcement activities of the police and City Commission's wardens; (c) improving revenue collection; (d) improving the central area environment for pedestrians; (e) improving traffic circulation for buses and other essential traffic; and (e) providing peripheral car parks, including the possible use of railway land.

2.45 Mombasa is the only other town with parking meters in Kenya. Out of a total of 683 meters about 600 are in working order. The current parking fee is Ksh 1 per hour. Mombasa has approximately 360 public off-street parking spaces. The fee is Ksh 2 per day. There are no particular parking problems in Mombasa. Parking conditions in the center of Kisumu are steadily worsening and the City Engineer is contemplating introducing parking meters. No parking surveys have been carried out to date.

2.46 Pedestrians and Non-motorized Transport: Very large numbers of workers in Nairobi and Mombasa walk to work. Morning peak hour cordon surveys in 1979 counted more than 12,000 pedestrians entering the central area and over 31,000 entering the industrial area in Nairobi. In many case these people had walked 3-5 kilometers. Overall, it was estimated in 1979 that 45 percent of daily trips in Nairobi were by the walk mode. In Mombasa more than 60 percent of daily trips are on foot. The situation ten years later has changed very little. Large numbers of pedestrians can be seen in Nairobi walking through the suburbs between 6:00 a.m. and 8:00 a.m. every weekday morning. The routes taken by the pedestrians are generally unsafe and uncomfortable. They walk in the carriageway of roads exposing themselves to traffic hazards, or use rough tracks cutting across open spaces. There are very few sidewalks and those that do exist are generally in very poor condition.

2.47 There are two principal reasons why there are so many pedestrian trips in Nairobi. Firstly, incomes are such that many people cannot afford the bus fare. Although the minimum Government wage is about Ksh 700 per month many workers earn only Ksh 400. Bus fares for this group would represent more than 25 percent of their monthly income. Secondly, buses are in short supply and not always regular. If workers have to travel in the peak hour there is a strong chance that they may not arrive at work on time.

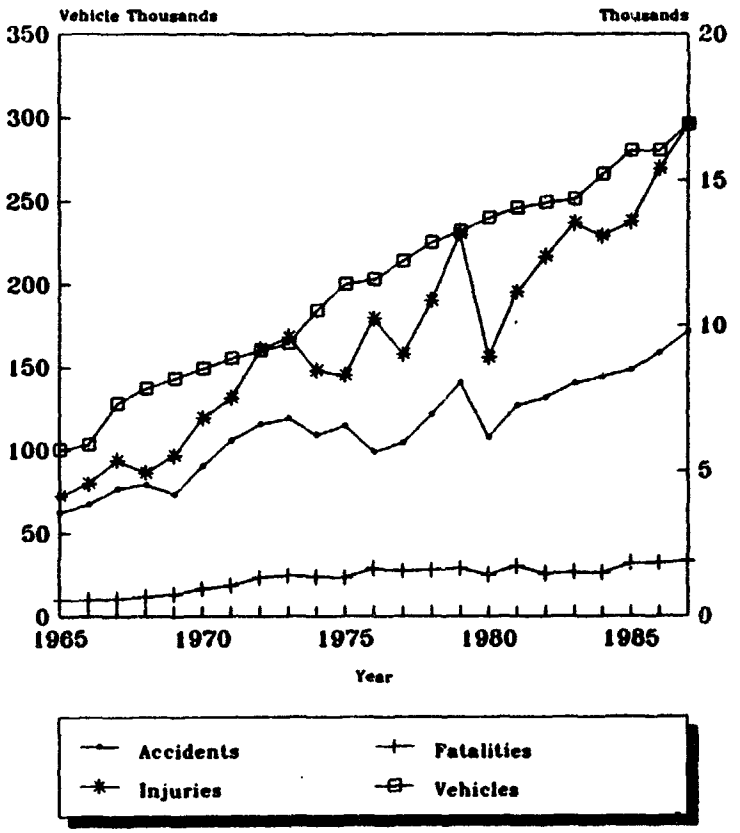
2.48 Although there are very few bicycle trips in Nairobi, in Mombasa and Kisumu many people use this mode of transport. In Mombasa, for example, there are more than 36,000 bicycles with current licenses. Each bicycle pays a Ksh 10 license fee to the Municipality. Enforcement of the licensing is carried out from time to time at road blocks on the bridges to Mombasa

Island. Much more could be done to encourage this mode of transport such as the provision of segregated bicycle facilities. Bicycle tracks are sparse and not well maintained.

D. Road Safety

2.49 The road safety situation in Kenya gives rise to significant concern. The number of reported road accidents increased at a rate of 6.8 percent per annum throughout the 1980's. This rate of increase is twice as high as the population growth rate and two and one half times higher than the rate of growth of the motor vehicle fleet (Chart 2.3 and Table 2.17).

Chart 2.3: ROAD TRAFFIC ACCIDENTS IN KENYA (1965-1987)



The number of fatalities and injuries also increased over the same period at 4.2 and 9.6 percent per annum respectively. Road safety has become a major health issue since there are now more than 1,850 deaths and 16,900 injuries per year. The number of casualties (deaths plus injuries) per accident has shown a steady increase over the past two decades (Table 2.18).

2.50 A large proportion of road accidents occur in urban areas. Road accident data indicate that around 31 percent of all personal injury accidents and 56 percent of all accidents occurred in Nairobi. Although data for other cities and towns have not been disaggregated it seems quite reasonable to suppose that more than half of all accidents take place in urban areas.

2.51 At the national level, pedestrians and cyclists account for about 48 percent of those killed and about 25 percent of those injured; passengers account for 38 percent of those killed and 58 percent of those injured; and drivers of motor vehicles account for about 13 percent of those killed or injured. Most road accidents victims are adults. Eighty-five percent of those killed and 90 percent of those injured are over 16 years old. In most provinces passengers constitute the largest category of victims, but in Nairobi and other urbanized areas pedestrians remain the road users at greatest risk. 27/

2.52 The vehicles involved in road accidents vary markedly across the country. At a national level cars and utility vehicles account for around 53 percent of accidents, and buses lorries and taxis for about 22 percent. At a provincial level, differing compositions of vehicle fleets leads to regional variations. For example lorries cause 21 percent of accidents in Coast Province but only 6 percent in Nairobi and 11 percent nationally; Matatus cause 21 percent of accidents in Nyanza Province but only 6 percent of accidents in Nairobi while the national average for Matatu generated accidents is 11 percent.

2.53 At the national level around 44percent of accidents are caused by drivers, 28 percent by pedestrians and 6 percent by passengers. Walking or running into the road is the most common road user error leading to accidents (18 percent), followed by losing control (10 percent), excessive speed (8 percent), misjudging (5 percent) and improper overtaking (4 percent). In Nairobi 42 percent of accidents are caused by drivers, 38 percent by pedestrians and 11 percent by passengers.

2.54 In order to appreciate the true scale of the traffic accident problem in a country, it is common practice to relate traffic accidents to population and vehicle fleet information and to compare these relationships for different countries. The most meaningful statistic for international comparison is the "accident rate" (expressed in "accidents per million vehicle kilometers"). Adequate information on vehicle usage is not available in Kenya hence this comparison cannot be made. However, it is possible to compare road safety in Kenya with other countries in relation to their

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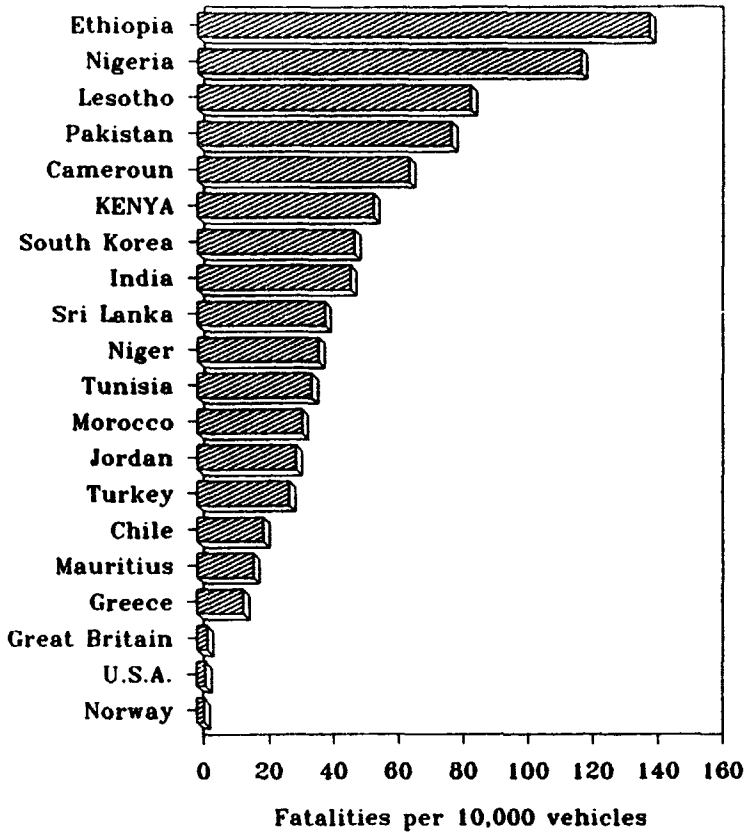
27/ In Nairobi, for example, 65 percent of those killed and 43 percent of those injured in 1987 were pedestrians.

respective vehicle populations. Chart 2.4 shows that in 1984 Kenya had one of the highest fatality rates (in terms of deaths per 10,000 vehicles). The

Chart 2.4: ROAD ACCIDENT FATALITY RATES SELECTED COUNTRIES 1983/84



equivalent fatality rates for a number of "developed" countries are also shown for comparative purposes and it can be seen that the Kenyan rate was around 15-20 times higher. 28/ Fatality rates in most other countries have reduced during the intervening years so Kenya's relative position has actually deteriorated since 1984. Kenya's fatality rate had been steadily declining up to 1984 when it was 47 deaths per 10,000 vehicles. However, by

28/ Although there is a long term tendency for fatality rates to decrease with increasing motorization, the very low fatality rates in the industrialized countries are due largely to the extensive and wide ranging road safety activities undertaken in such countries during recent decades.

1985 it had risen to 54 deaths per 10,000 vehicles and in 1987 it was up to 59 deaths/10,000 vehicles (Table 2.19).

2.55 Comparisons of road safety in urban areas show that urban fatality rates (in terms of deaths per 10,000 vehicles) in Kenya are comparable to other cities in developing countries, but are around 10-15 times higher than the rates for cities in industrialized countries (Table 2.20). Table 2.21 shows that the proportion of pedestrian and cyclist casualties in Kenya's urban areas are significantly higher than in most other countries. Around three times as many pedestrians are involved in accidents compared with the industrialized countries. In Nairobi, for example, pedestrians constitute around 65 percent of the total casualties, whereas in British cities this figure is around 24 percent.

2.56 Accident Costs: Deaths and serious injuries from traffic accidents represent a considerable waste of a nation's resources and cause anguish and grief to families and friends of those killed or maimed. Even if the emotional consequences of traffic accidents are ignored, the cost to the community in purely economic terms is very high. Each year in Kenya more than 1,800 persons are killed and almost 17,000 persons are injured or crippled as a result of traffic accidents. Accident victims can remain in hospital for days, or in some cases months. Some require medical treatment for the rest of their lives because of the seriousness of their injuries. Thus, the use of some hospital beds and highly skilled medical staff can be attributed to the cost of traffic accidents. In addition, the cost of ambulance and police services should be added to the insurance and other "visible" costs of traffic accidents, together with the productive loss to the country of the individual killed or crippled. The sums involved are significant and represent a major drain on the economy.

2.57 According to the National Road Safety Council (NRSC) of Kenya the cost of road accidents to the Kenyan economy in 1981 was estimated as at least Ksh 1,000 million (equivalent to 1.7 percent of GNP). Since 1981 the overall accident costs have increased. A more recent calculation 29/ of accident costs showed annual losses of around Ksh 1,475 millions (equivalent to 1.3 percent of GDP). Although it was not possible to disaggregate those items incurring foreign exchange costs, it should be noted that the largest proportion of the vehicle damage costs relate to the cost of imported spare parts. Similarly, much of the cost of medical care for the injured is due to imported drugs and medicines. Consequently, it is likely that a significant portion of the total cost to the country arising from road accidents is being incurred in foreign exchange. For these reasons it is important that the Government gives urgent consideration to implementing an expanded road safety program. This program should focus on remedial actions at accident blackspots, based on sound traffic engineering design principles, improved enforcement and safety education programs.

29/ Mission estimate: Fatality = Ksh 570,000, Serious injury = Ksh 11,800, Slight injury = Ksh 700, and Damage to a vehicle = Ksh 35,000.

E. Environmental Concerns

2.58 Currently there is little evidence of any potential environmental concerns with regard to urban transport conditions in Nairobi. Vehicle noise, pollution and intrusion are not regarded as significant problems. However, there is a growing awareness of the impact on the environment of the severe traffic congestion which occurs in Nairobi and particularly the problem of air pollution. This concern has led to a proposal for a Clean Air Act. A draft of this act is currently in preparation and is available in the mission files. The Act is all embracing and does not specifically focus on exhaust emissions. The act provides for the establishment of a Clean Air Board whose principal functions are: (a) to develop and prepare a comprehensive plan for abatement, control and prevention of air pollution; (b) to establish, repeal or modify air quality standards; and (c) to conduct studies, investigations and research relating to air pollution, its causes, effects, prevention, abatement and control.

III. URBAN TRANSPORT FINANCE

3.01 Responsibilities for the finance of urban transport infrastructure and services are divided between central Government, local authorities and the private sector. Central Government is responsible for the construction and maintenance of the national road network (trunk roads) in all local authorities. It is also responsible for: (a) suburban rail services in Nairobi (operated by Kenya Railways); and (b) bus services in several of Kenya's principal urban centers (operated by the National Youth Service). Local authorities are responsible for the construction and maintenance of all secondary and access roads (non-trunk roads), and public transport facilities (such as bus terminals etc.). Construction of new roads and major repairs and rehabilitation are mostly carried out under contract. Routine maintenance is carried out by the engineering departments of the local authorities.

A. Central Government Revenues and Expenditures

3.02 Despite well founded goals and intentions 1/ to deal with the deteriorating fiscal situation, the Government has not been able to keep spending within the prescribed limits. Revenue targets, on the other hand, have been met. This is due in part to significant increases in road transport taxation. A major factor driving the expansion in Government recurrent expenditures has been rapid employment growth in the public sector. This reflects the Government's concern with alleviating unemployment through the direct creation of jobs and increased demand for Government services. This trend has had two important consequences. Firstly, the rising share of labor costs in total recurrent expenditures considerably limits Government's flexibility in reducing overall spending levels; and secondly, pressure to cut budgets falls more heavily on non-wage operations, thus reducing productivity of civil servants. The real value of non-wage operating and maintenance resources available for each civil servant to carry out his work fell by one third over the period FY81-FY87. In the highway sector, central Government resources which were diverted to wages during 1984-88 reduced resealing accomplishments to 60 percent of the planned level. 2/

3.03 The overall financial picture of central Government involvement in the road transport sector is of significant decreases in expenditures and significant increases in revenues. The ratio of road transport expenditure to transport revenues fell from 50 percent in FY84 to 25 percent in FY87 (Table 3.21). The Government is using the sector to maximize general budget revenues, but at the same time allowing assets of the sector to deteriorate. Chart 3.1 clearly shows the disparity between investment and revenues from the sector. There is of course no reason why the transport sector should not be used to boost Government resources, but it does not make sound economic sense to do this at the expense of decreasing the asset

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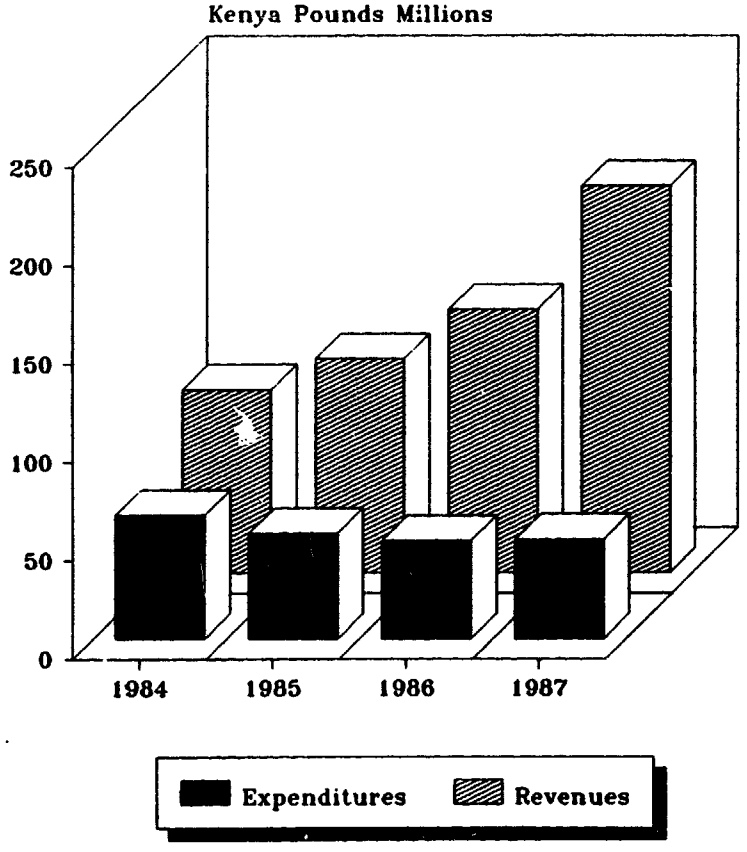
1/ Sessional Paper on Economic Management for Renewed Growth, 1986.

2/ World Bank Report No. 7411-KE, Kenya, Recent Economic Developments and Selected Policy Issues, September 26, 1988 (page 46).

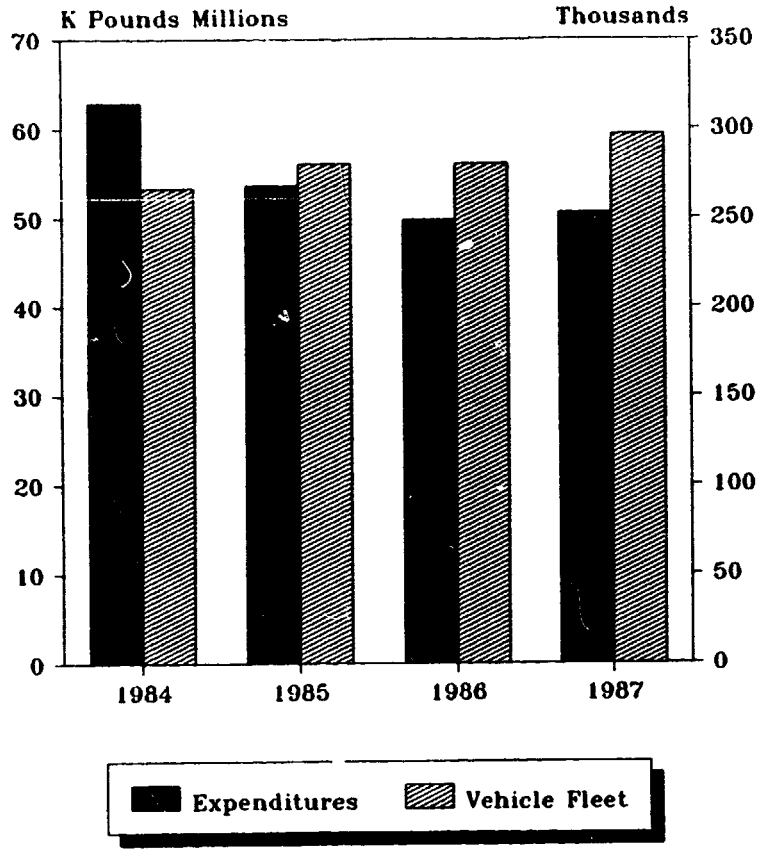
value of the road infrastructure and building up a backlog of maintenance needs.

Chart 3.1: CENTRAL GOVERNMENT REVENUES AND EXPENDITURES - ROAD TRANSPORT



3.04 The seriousness of this situation is illustrated by the comparison of supply (expenditure) and demand (vehicle fleet) shown in Chart 3.2. Expenditures are decreasing whilst the number of vehicles is increasing. Clearly, without a resurgence in expenditures on road infrastructure the road transport system will continue to deteriorate as demand increases. This could have a significant impact on economic development as transport costs increase due to poor road surface conditions and delays.

Chart 3.2: SUPPLY v DEMAND
(ROAD EXPENDITURES v VEHICLE FLEET)



Central Government Revenues

3.05 Road transport related revenues originate mainly from three sources: (a) vehicle purchase taxes (import duties and purchase tax); (b) vehicle ownership taxes (license fees); and (c) taxes on vehicle use - taxes on fuel and spare parts (import duties and sales taxes). Fuel taxes are the largest revenue generators representing approximately 75 percent of road transport revenues. A further 18 percent of revenues come from vehicle import duties. The remainder come from vehicle and driver licenses. Total road transport revenues (Table 3.1) have shown important increases in recent years - 16.9, 23.2 and 46.6 percent respectively in 1985, 1986 and 1987. The large increase in 1987 was due mainly to a significant hike in fuel sales tax. The proportion of road transport related revenues to total revenues has increased steadily at a rate of 10 percent per annum since FY84. Road transport related revenues represented 13.3 percent of total budget revenues and amounted to Kf 197 million in 1987. A very large proportion of these revenues are attributable to the ownership and operation of vehicles in urban areas, particularly in Nairobi.

3.06 Vehicle sales taxes and import duties have undergone significant changes since 1984. In this year a flat rate sales tax was replaced by a graduated sales tax which varied from 30 percent for small engine cars to 85 percent for large cars. The rates were progressively increased up to 1987 particularly for high engine capacity cars. Since 1987 all rates have been reduced slightly (Table 3.2). They now vary from 25 percent for small cars to 270 percent for large cars. Sales taxes for buses also vary with engine size, but over a lower and smaller range. Rates for very small buses are currently 35 percent and for large buses 85 percent. Goods vehicles are taxed at the general rate of 30 percent. Sales tax for all locally assembled vehicles is 30 percent (except buses for which the tax is 17 percent). The composite rate for sales tax plus import duties increased from 75 percent (for all cars) in 1983 to 90-570 percent (depending on engine size) in 1987. Large engine size vehicles are penalized with higher tax rates. This is intended to minimize the number of fuel-thirsty cars.

3.07 Fuel sales tax and import duties are a buoyant source of revenue. This is due to the Government policy of adjusting domestic petroleum prices in line with the changes in international prices (Table 3.3). Although, the average pump price for motor vehicle fuel in Kenya is still on the relatively low side compared to western countries (Chart 3.3), the Government's present energy policy is to avoid subsidizing petroleum consumption as a whole, while cushioning from low-income consumers the full impact of price changes. Consequently, price increases have been relatively low for LPG, illuminating kerosene and light diesel oil. The latter is used for small public transport vehicles (matatus). In 1987 the sales tax accounted for approximately 83 percent of fuel revenues and import duties for about 17 percent. Revenues from transport fuel increased by 66 percent in real terms between FY84 and FY87 (Table 3.4).

3.08 Vehicle ownership taxes in the form of vehicle registration fees, annual licenses and driving permits have also been raised twice in recent years - in 1985 and 1988. In 1988 the rate of increase was proportionally more on smaller cars (25 percent) than large ones (12.5 percent). Annual license fees for high engine capacity cars - above 3,000 cc (Ksh 5,000) - are approximately 800 percent more expensive than for small cars - 1,200 cc (Ksh 600). Revenues from vehicle and driver licenses increased by 11.3 percent in real terms between FY84 and FY87 (Table 3.5).

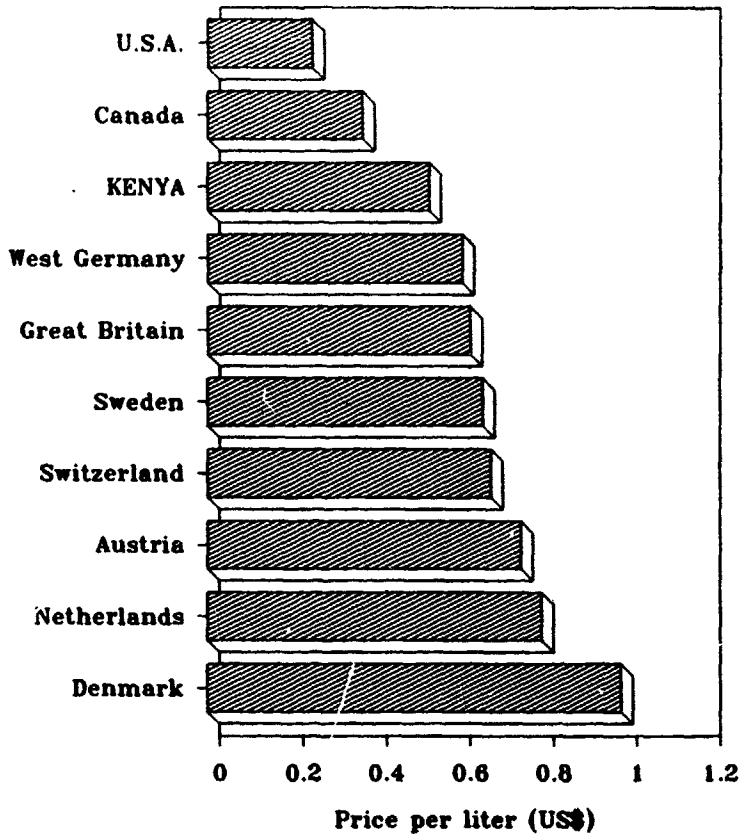
Central Government Expenditures

3.09 Central Government expenditures for urban transport consist of: (a) public transport operations; and (b) road construction and maintenance. There are two urban public transport operations to which the central Government makes financial contributions. These are: (a) the National Youth Service which operates buses in several urban areas; and (b) Kenya Railways which operates suburban train services in Nairobi. 3/ National roads within urban areas (trunk roads), for which the central Government is responsible, account for approximately 0.8 percent of the

3/ Paragraphs 2.20-2.23 and 2.24-2.26 provide details of these operations.

national road network, or 6.6 percent of the nation's bitumen roads. Approximately 67 percent of these bitumen trunk roads are in Nairobi.

Chart 3.3: AVERAGE GASOLINE PRICES 1987
VARIOUS COUNTRIES



3.10 Expenditures on public transport operations: Prior to 1986 central Government had no financial involvement in urban public transport operations. Since that time the Government has provided capital finance for the start up of the National Youth Service bus operations and has underwritten the losses of Kenya Railways' suburban train operation in Nairobi. So far the Government has spent K£ 30 millions on a new bus depot for the National Youth Service in Nairobi and K£ 3 million on 40 buses. Further expenditures on equipment for the Nairobi depot and maintenance facilities in Kisumu are planned. Government's involvement in the suburban rail services has been less costly. Cumulative losses on these services from the start of operations in August 1986 to the end of September 1988 were K£ 1.4 million.

3.11 Expenditures on Kenya'a national road network in real terms declined by 20 percent between FY84 and FY87. Recurrent expenditures decreased by 50 percent and development expenditures by 7 percent (Table 3.6). The proportion of recurrent expenditures to total expenditures decreased from 30 percent to about 20 percent in FY85, since when it has remained stable.

3.12 The recent involvement of the central Government in public transport operations is a source of concern since it heralds the specter of major Government subsidies in what was previously a wholly private sector environment. Experiences of other African Governments which have involved themselves in public transport operations are replete with cautionary tales and financial disasters. Embarking on such a course of action could have an injurious impact on the private sector. Indeed, as is pointed out in Chapter 2, the lower fares charged by the National Youth Service have already introduced price distortions which are seriously compromising the future of the largest private sector operator. Such actions could have a budgetary impact that the Government is not in a position to sustain.

3.13 Approximately one percent of central Government recurrent expenditures were passed on as grants to municipalities for the maintenance of trunk roads (Table 3.7). 4/ This proportion corresponds to the ratio of national roads in urban areas to total national roads, but does not reflect the much heavier usage of the national roads in urban areas. It can be assumed that the wear and tear on national roads in Municipalities are greater than in rural areas, and therefore maintenance should be more intensive on the former. Development expenditures on urban roads are not separately accounted for. However, it is known that around one percent of central Government's expenditures was devoted to roads in Nairobi over the period 1985-87. Elsewhere, expenditure on urban roads has been negligible. This is in line with Government's policy of promoting rural development.

B. Local Government Revenues and Expenditures 5/

3.14 Local Government finances have been in a spiralling decline since 1974 and are now in a poor condition. Lack of revenues has reduced recurrent expenditures to an unhealthy level and investment by local authorities has virtually dried up. Consequently a large backlog of rehabilitation has built up, and additional road capacity is required in Nairobi to alleviate traffic congestion. Without an increase in expenditures the situation will continue to deteriorate. Vehicle operating costs

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4/ This expenditure comprises the majority of central Government's expenditure on the maintenance of urban roads. Since 1985 the Ministry responsible has been mainly carrying out urban road maintenance directly rather than providing grants.

5/ Information presented in this section has been obtained from three sources: (a) a detailed review of published accounts from Nairobi, Mombasa and Kisumu for the period FY81-87 (Tables 3.8 - 3.14); (b) a review of published accounts from 18 municipalities for FY87 (Table 3.15); : and (c) World Bank Report No. 4148-KE, Economic Development and Urbanization Policy, December 13, 1985.

will escalate: (a) as the condition of roads pass from good, to fair, to poor; and (b) as congestion increases. Investments are needed to expand the capacity of the road network and improve the efficiency of public transport operations. In contrast to the national situation, urban transport provides negative cost recovery and local transport related revenues are decreasing. The level of income from local transport related sources would need to be increased five- to six-fold to cover existing transport related recurrent expenditures and up to ten-fold if recurrent maintenance was being carried out at an adequate level (Table 3.22).

3.15 Prior to 1969 local authorities benefited from a Graduated Personal Tax (GPT) which provided sufficient revenues for infrastructure maintenance. 6/ Between 1969 and 1973 the Government gradually abolished the GPT for all municipalities. To mitigate against the loss of this important revenue, and the resulting financial strain on the municipalities, the Government introduced a series of municipal grants. Gradually, these grants were removed as the central Government's budget became increasingly constrained. Finally, in 1983, in response to continuing monetary pressures, the Government eliminated all grants to local authorities except teacher's salaries. During this period, costs escalated, inflation eroded purchasing power, urban areas expanded rapidly, and the local authorities did not expand their revenue base. As a result, local authorities began to incur budget deficits and were increasingly unable to carry out basic maintenance. Development budgets were reduced to zero and almost all new investment was undertaken by borrowing. 7/ Local authorities, and particularly the larger municipalities, now find themselves in an unstable financial state.

3.16 Despite cuts in real expenditure per capita municipalities have incurred deficits in their General Rate Fund Revenue Accounts. These have been financed by a combination of: (a) running down reserves - which are now almost exhausted; (b) use of cash surpluses from other municipal funds, which is technically illegal; and (c) accumulation of arrears, particularly to other parts of the public sector. Non-payment of bills has become a common feature of public sector finance. In Nairobi, Government and parastatals are at least four years behind with payments of rates to the City Commission which, in turn, has held back income and tax charges which it has collected and are due to central Government. Debtors and creditors have risen four-fold in the city accounts since 1981. Thus, not only have the resources of municipalities become extremely limited, their financial affairs are on the verge of breakdown.

Local Government Revenues

3.17 Municipal revenues in Kenya's three largest cities have been decreasing steadily by about five percent per annum since 1983 (Table 3.16). This represents a reduction in real terms of 39 percent over a four

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6/ The GPT was a payroll tax levied by employers and collected by local authorities for their own use.

7/ Nairobi City Commission's outstanding loans increased by 47 percent from FY81 to FY87, equivalent to a annual growth of 6.7 percent.

year period. The principal source of revenue has been property taxes. The average contribution of transport related fees and charges to local authority revenues over 18 cities in 1987 was approximately one percent. (Table 3.15). In Nairobi revenues from transport fees and charges 8/ have fallen by about 46 percent since 1983. In Mombasa and Kisumu they have remained relatively constant. The principal sources of income from transport in Nairobi are parking charges from off-street car parks and parking meters. 9/ Revenues from the local transport sector do not cover costs. Even at the existing low level of recurrent expenditure local transport revenues represent less than 15 percent of expenditures.

3.18 In principal, the existing municipal rates, fees and charges are buoyant sources of revenue, which should increase as cities grow. Moreover, there are no technical impediments in the Local Government Act or elsewhere to increasing the rate of taxation, or scale of licence fees or charges. In practice, municipalities have been unable to realize this theoretical buoyancy in revenues. Rates are assessed on unimproved site values, implying that a 20-storey office block pays the same rates as an adjacent undeveloped car park. Many municipalities tax at a lowly rate of 7.5 percent of this unimproved site value. Similarly, there is little variation in fees and charges so that the licence fee for a 200-bedroom luxury hotel in the city center for example is similar to that for a modest hotel in a high-density suburb. Municipalities have encountered local opposition to increases in taxation and have not always had sympathetic responses from Government, which must approve any increases in rates, fees and charges.

3.19 In recognition of local authorities dire financial situation, Government re-introduced the GPT in the form of a Services Charge on January 1, 1989. This is a tax on residents payable at the place of employment and is for the benefit of the local authority. Rates are set by Government and currently consist of a KSh 10 registration fee and a tax of between 10 and 100 shillings per month depending on income 10/. The full impact on municipal revenues of this charge will not be felt until FY90.

3.20 Mission estimates for the three largest cities (Table 3.17) show that the new services charge is expected to ease the immediate cash crises in Nairobi and Kisumu and contribute approximately 20-30 percent to expenditure in the first full year of collection. Estimated revenues in Nairobi, Mombasa and Kisumu are respectively, K£ 11.3 millions, K£ 7.5 millions and K£ 2.4 millions. Despite this important new source of finance the increased revenues will not be sufficient to bring municipal expendi-

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8/ These revenues originate mainly from fees charged to bus operators (principally inter-city) at municipally controlled bus stations. Additional income is generated in Nairobi and Mombasa from fees charged for the use of car parks and parking meters.

9/ Paras 2.42 - 2.44 provide information on parking revenues in Nairobi.

10/ Up to an income of Ksh 699 per month the charge is zero, between Ksh 700 - 1,000 the charge is Ksh 10; the charge then goes up by increments of Ksh 10 per Ksh 1,000 basic income until Ksh 6,000; beyond Ksh 6,000 the charge is Ksh 100.

tures per capita back to the pre-1981 levels in real terms. If priority was to be given to transport over other services, for example if 50 percent of the increase in revenue from the services charge were to be allocated to roads, this would more than double current expenditures and would greatly improve the situation as regards shortages of materials and equipment.

3.18 Nevertheless, in the medium term it is clear that municipal finances need to be strengthened by more than the provision of the Services Charge. A comprehensive review of revenue generating opportunities needs to be undertaken by the local authorities, particularly with regard to the transport sector. Increased parking charges and penalties are an obvious candidate. Providing relatively cheap peripheral parking around the center of Nairobi linked to a more expensive area licensing scheme for vehicles entering the downtown area should be investigated as a potential revenue generating measure. Such a scheme could also have important environmental and traffic flow benefits.

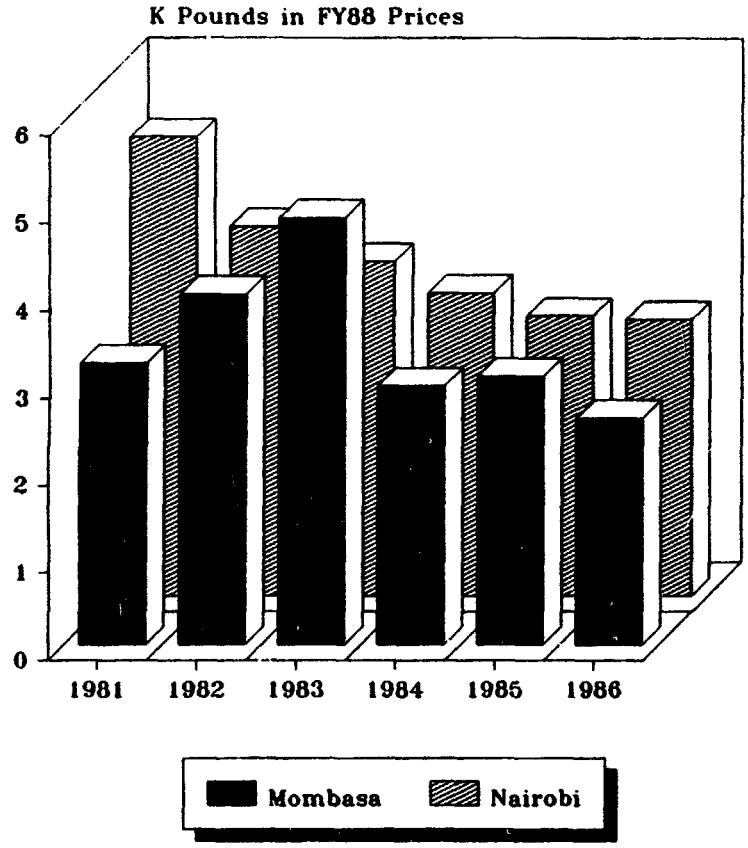
Local Government Expenditures

3.19 Recurrent expenditures in the three largest municipalities remained reasonably constant over the period 1981/87 (Table 3.16), but declined significantly in Mombasa in 1986. However, taking inflation into account total expenditure per capita in Nairobi decreased from K£ 47.3 in FY81 to K£ 24.7 in FY87 (Table 3.18). Recurrent expenditure per capita on roads in constant prices also fell, from K£ 5.25 in FY81 to K£ 3.17 in FY87 (Table 3.19). Real recurrent expenditures also declined in Mombasa over the same period (Chart 3.4). Previous studies 11/ noted that between 1963-81 there was comparatively little movement in the percentage of total municipal expenditure for different services, except that transport related expenditure 12/ fell from 13 to 7 percent over that period. Since that time transport expenditure has stabilized in the smaller municipal areas at about 6 percent. In Nairobi and Mombasa the proportion of transport related expenditures is somewhat higher ranging between about 13 and 17 percent. Contrary to what is happening at the central Government level, labor costs for transport related services have not been increasing relative to running expenses (Table 3.20).

11/ World Bank Report No. 4148-KE, Kenya Economic Development and Urbanization, December 13, 1985 (Vol II, Main Report).

12/ Local Authority spending on urban transport includes recurrent expenditures for the maintenance of roads, street lighting, drains and bus stations, and capital expenditures for the construction of roads, footpaths, traffic management and public transport facilities.

Chart 3.4: RECURRENT EXPENDITURE PER CAPITA IN NAIROBI AND MOMBASA



3.20 Capital Expenditures: Municipal Authorities have made hardly any investments from their own resources in recent years. Practically all capital expenditures by Municipal Councils have been financed through loans from the Local Government Loan Authority (LGLA). 13/ Capital investments in urban transport from this source in FY87 amounted to an insignificant K£ 745,000 of which 37 percent was for bus stations. Urban transport investments represent 4.2 percent of the total loans to Municipal Councils. Because of the very poor financial condition of Local Authorities only 1.4 percent of the debt service due to the LGLA for the year FY87 was paid. These investments can therefore be effectively considered as grants from Central Government.

13/ The World Bank has also financed some urban access and secondary roads connected with the ongoing housing project. Surplus project funds from the same project have been used in Nairobi to improve sections of the secondary road network.

3.21 The increased revenue from the Services Charge should enable local authorities to increase their borrowing potential for capital projects. A workable mechanism needs to be found to provide such finance. The LGLA was originally set up to facilitate such investment. The LGLA, which is the principal source of capital finance for General Rate Fund services, has encountered increasing difficulties in recent years due to poor management and political and administrative interference in its operations. LGLA operations are now at a virtual standstill with respect to the issue of new loans. It is clear that unless improvements in the system of local authority financing are considered, including the reform of LGLA, local authorities will continue to be severely constrained in providing essential urban services. Urban areas are the centers of wealth and economic activity and they should be allowed to raise more of their own revenues. Unfortunately, as yet, neither the central Government nor the local authorities have a comprehensive plan of action for dealing with the situation. However, recent initiatives indicate an increasing recognition by the Government of the importance of developing a sustainable mechanism for financing urban infrastructure investments. In developing such a financing mechanism the following objectives merit consideration.

- Establishing a sustainable and self-generating source of funding for urban infrastructure and services.
- Increasing the level of financing for infrastructure investments.
- Reducing the level of central Government subsidies to the sector.
- Mobilizing more resources by local Governments
- Developing greater fiscal discipline vis a vis local authorities.
- Developing financial appraisal capacity and lending procedures based on commercially oriented principles.

3.22 There is also a clear need for the central Government to re-examine its public expenditure priorities. Strengthening basic infrastructure in urban areas is an urgent and critical need. Further neglect will only incur higher costs in the longer term. Municipal authorities will also have to play a more important role in financing local infrastructure costs. Nairobi City Commission is authorized to issue its own stock, subject to Government approval, but lack of confidence in the market led to there being no takers when it last attempted to do so in 1983. Ways of increasing local resource mobilization need to be investigated. A thorough analysis of how this might be achieved and a detailed action program are urgently needed.

IV. INSTITUTIONS AND HUMAN RESOURCE DEVELOPMENT

4.01 Institutional effectiveness in the field of urban transport in Kenya is limited by: (a) fragmented responsibilities; (b) weakness in the development and coordination of policy; (c) lack of follow-through on policy implementation; and (d) uncoordinated actions in the management of urban public transport resources. There is no clear cut urban transport policy in Kenya. What exists, is an amalgam of high level decisions and policies concerned with related sectors such as roads, public transport, road safety and urban development. This weakness mainly stems from: (a) a lack of awareness of the importance of urban transport to the economy; and (b) a lack of skilled transport engineering and planning professionals. The problem is further compounded by the lack of a strong lead agency empowered to coordinate and implement comprehensive urban transport policy measures. At the local level the principal constraints are complex administrative controls and weak professional and technical skills. Training opportunities for transport professionals are limited, but possibilities exist for building up local training agency capabilities. The following text provides an institutional overview and performance evaluation of the various public and private agencies involved in the urban transport sector in Kenya and a review of training needs and opportunities.

A. Organizations, Responsibilities and Performance

National Agencies

4.02 Ministry of Local Government and Physical Planning (MLGPP): This Ministry, by virtue of its administrative control of local authorities and urban development, is the lead agency responsible for the coordination and development of national urban transport policies. It performs this task with the aid of the Urban Transport Policy Committee which meets infrequently and on an ad-hoc basis. Several Ministries are represented on the Committee. These include: the Ministry of Transport and Communications, Ministry of Public Works, Ministry of Planning and National Development, Nairobi City Commission, Office of the President, the National Police and the Ministry of Finance.

4.03 Over the years many studies have been carried out to develop solutions to Nairobi's urban transport problems and many resolutions have been made by the committee for follow-up actions. These efforts have involved short and long-term plans for coping with urban transport problems and rapid population growth. The main transport objectives of the studies have been the improvement of public transport efficiency and safety, and the reduction of congestion in the central business district. Some proposals have focussed primarily on traffic engineering and manage-

ment, involving the creation of segregated busways, cycle paths, pedestrian and parking facilities. 1/

4.04 Other plans have emphasized infrastructure-intensive solutions such as a by-pass road to redirect Mombasa-Nakuru traffic around the city center, an outer ring road, construction of missing links, and dualling, widening or extending certain roads. Still other approaches have proposed demand management through the staggering of work hours, decentralization of activities from the central business district and the industrial area, and schools rationalization. Transport carrier-based solutions have analyzed options such as articulated buses, light rail transit, guided buses and rapid rail transit. Finance-based proposals have also been put forward for consideration. These called for enhancing local authority capacity to generate or access revenue so as to permit capital investments, and improve supervision of infrastructure planning, development and maintenance. Despite this plethora of advice and a general consensus within the Committee on what needs to be done, very few of these actions have been carried out and little has been achieved in terms of the implementation of physical improvements or policy measures.

4.05 One of the principal constraints on the committee's performance is the lack of follow-through with regard to policy development. This has meant that many worthy ideas have not been fully investigated, particularly with regard to demand management. 2/ The MLGPP is essentially an administrative Ministry and is devoid of urban transport technical skills. The main body of technical skills is located in the Ministry of Transport and Communications and the Ministry of Works.

4.06 The MLGPP has recently been strengthened by the addition of the Department Physical Planning (DPP) which was formerly with the Ministry of Lands. This agency has relatively strong technical skills in urban planning, but is weak in the field of urban transport planning. The structure

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1/ The following studies have been carried out in Nairobi:
"The Metropolitan Growth Strategy Study", (1973) by the Nairobi Urban Study Group;
"The Nairobi Bus Lanes and Busways Feasibility Study", (1977) by P.G. Pak Poy & Associates;
"The Nairobi Urban Transport Project", (1979) by the Nairobi City Commission;
"The Matatu Mode of Public Transport in Metropolitan Nairobi", (1982) by the Mazingira Institute;
"The Study of Urban Transport Needs of Nairobi, Stage I" (1986), by Transurb Consult (Stage II which involves detailed feasibility studies for busways and articulated buses is due to be completed in June 1989);
"The Report of the Joint Technical Committee on the Study of Urban Transport Needs for Nairobi", (September 1986) involving The Ministry of Local Government, Ministry of Transport & Communications, Ministry of Planning and National Development, Ministry of Public Works, Nairobi City Commission and Kenya Railways Corporation.

2/ Examples of demand management include staggering of work hours, traffic restraint, parking controls, school bus system, car pooling etc.

plans prepared by the DPP do not adequately cover urban transport topics. The planners in the DPP have the necessary background to develop skills in urban land use transportation planning, and with adequate training could learn to evaluate strategic medium and long-term transportation options in urban areas. Currently, such training opportunities are lacking in Kenya.

4.07 Ministry of Transport and Communications (MOTC): The MOTC is responsible for the planning design and management of Kenya's national transport networks, including railways, air transport, ports and harbors and inland waterways. The licensing and regulation of motor vehicles, and laws pertaining to their use, also fall under the remit of the MOTC - in particular, the MOTC is responsible for regulations pertaining to public transport vehicles. The Ministry is represented on the Board of Directors of the Nyayo Bus Service Corporation whereas the MLGPP is not. Because of its strong technical orientation the Ministry of Transport has played an active role in the Urban Transport Policy Committee and in some instances has been directed to chair its technical sub-committees.

4.08 The MOTC is responsible, through Kenya National Railways, for the operation of the Nairobi Commuter Train services. These services provide a very limited capacity (equivalent to about 15 standard buses) and consequently carry a very small proportion of the daily commuters in Nairobi. The existing commuter train services, described in Section 3 of this report, represent a crisis response to the general problem of lack of public transport capacity. These loss-making services are not integrated with other forms of transport and could be replaced at the current level of supply more efficiently and more cheaply by bus services.

4.09 The National Road Safety Council (NRSC), which was established in 1982, falls under the control of the MOTC and has its technical secretariat in the Road Safety Unit of the Roads Department. This Department was recently transferred to the Ministry of Public Works. Since these changes it is unclear whether the NRSC will continue to depend on the Ministry of Transport and Communications or switch allegiance to the Ministry of Public Works.

4.10 Ministry of Public Works (MPW): The MPW is responsible for the planning, design, construction and maintenance of Kenya's national road network in rural and urban areas. National roads (trunk roads) within urban areas are either maintained by the Ministry directly or through grants provided to the local authority. The Ministry also defines standards for the planning and construction of roads. There exists within the Ministry a core of experienced engineers and technicians capable of planning and implementing road schemes and managing road maintenance activities. The Ministry has a strong outreach capability through its District Engineers. Many of these engineers have the necessary background to be trained as traffic engineers and traffic management specialists.

4.11 Office of the President (OP): The OP has played a major role in urban transport developments in recent years. It was at the initiative of the OP that decisions were reached concerning the setting up of commuter rail and bus services. The National Youth Service which is responsible for the Nyayo Bus Services comes under the control of the Office of the President. Decisions concerning the allocation of the Nyayo bus fleet are

made by this office. The National Police, including the Traffic Branch, also comes under the direct responsibility of the Office of the President.

4.12 National Road Safety Council: Prior to 1979 the Traffic Department of the National Police Force was the only organization that concerned itself with road safety matters. Although several other agencies were concerned about the problem of increasing road accidents little was done to coordinate the actions of the various groups. In 1979 the World Bank agreed to include equipment for Police enforcement as part of the First Highway Sector Loan. At about the same time the GOK and the Government of Finland decided to collaborate on a road safety improvement program. This collaboration began in May 1979 and is still continuing today. One of the major outcomes of the study phase of the program was a recommendation to establish a National Road Safety Council to provide a national coordination function. A Secretariat was established in 1981 in the form of a Road Safety Unit of the Planning Division of the Ministry of Transport and Communications. The NRSC was established in May 1982.

4.13 The principal successes of the NRSC are new road safety legislation, improved road safety education in schools and a raising of the general awareness about road safety issues. Despite these achievements there appears to have been very little impact on traffic accidents. One of the principal reasons is thought to be the lack of finance for road safety improvements. The NRSC is grossly under funded. Although it has provided significant assistance to Municipalities in identifying and drawing up remedial actions for accident blackspots little has been implemented. The poor financial status of the Municipalities has meant that they too have not had any resources to devote to road safety actions. Additionally, the Finnish aid which totalled US$ 2.4 million up to the end of 1987 has mainly focussed on software aspects and little has been done to deal with the physical environment (accident blackspots) or equipment needs, although some small items have been supplied to improve police enforcement.

4.14 Apart from the problem of low levels of funding, the NRSC is now facing an identity crisis. The recent Ministerial reorganization transferred the Roads Department (including the NRSC Secretariat - The Road Safety Unit) to the MPW. However, the NRSC remains under the responsibility of the MOTC. The funding of the NRSC (Ksh 2 million per year) which received its allocation through the Secretariat is now in dispute between the two Ministries. This is having an adverse impact on the operations of the Secretariat.

4.15 Kenya National Police: Traffic enforcement in Kenya is carried out by the Traffic Department of the National Police Force. This department is responsible for the highway patrols, administering vehicle inspections and driver testing. The Highway Patrol section was established in 1973. The Nairobi branch of the Traffic Department plays an active role in the development of traffic policing activities, but is constrained by lack of equipment and transport. The Police Traffic Department is represented on the Nairobi Area Traffic Management Committee (see para. 4.32)

4.16 The traffic police have received considerable assistance, with respect to enforcement training during the Finnish funded road safety project. Many of the personnel in the Head Quarters and in the Provinces

have received direct practical training on enforcement methods, tactics and equipment from the Finnish experts during the course of the project. Hence,the general level of competence and knowledge about traffic policing methods and techniques has improved. The Kenya Police, has recognized the importance of the traffic policing function and the need to establish a specialist traffic department with adequate opportunities for internal promotion. Officers can now develop a career path in the Traffic Department without switching disciplines. This is extremely important to the development of an experienced cadre of traffic police enforcement officers.

4.17 Staffing levels have increased significantly and 38 new highway patrol bases have been established throughout the country. Provincial Traffic Enforcement officers have been appointed to initiate, coordinate and supervise traffic police enforcement activities in each province. The Traffic Department of Kenya Police is now therefore technically much more capable of providing an effective enforcement function to improve road safety in Kenya. However, its effectiveness is still inhibited by the availability of transport, equipment for enforcement and communications and lack of training. The problem of training should be alleviated to some extent in the near future when the new Traffic Police Training College and Driving School will be opened at Ngong near Nairobi.

4.18 Nyayo Bus Service Corporation (NBSC): This parastatal was formally gazetted on July 22, 1988 and is likely to come into operation in the second quarter of 1989. Until that time the operation is being managed by National Youth Service under the direction of the Office of the President. The Board will consist of a non-executive chairman appointed by the President, the Permanent Secretary of the Ministry of Transport and Communications, the Permanent Secretary to the Treasury, the Director of the National Youth Service and not more than five other members. There will be a Managing Director of the Service who will be its chief executive. The purpose and object for which the Service was established is "to undertake and provide commuter bus services operated and maintained by it to complement public transport for commuters in urban and peri-urban centers and on such other routes as the Board shall determine".

4.19 The Board will establish a "Nyayo Bus Services Fund" to which all moneys and equipment received by NBSC will be credited and out of which all payments and disbursements will be made. The Board is also empowered to fix bus fares "which should be reasonable and compatible with those applicable in the industry and which will be reviewed periodically". The legal notice establishing the NBSC delegates the operation of the commuter bus services to the National Youth Service. 3/ 4/

3/ Annex 2 provides a copy of the Gazette Supplement No.39 establishing the Nyayo Bus Service Corporation.

4/ The National Youth Service is a para-military organization established to train young citizens in discipline and nation building. The members of the service are trained in a variety of technical skills including driving of heavy vehicles and vehicle repair.

4.20 Matatu Vehicle Owners Association: The Matatu Vehicle Operators Association was formed in 1983 and has played a significant role in the development of this mode of transport. The Association was de-registered by the Government in 1988. (see para 2.11)

Local Agencies

4.21 Kenya Bus Services Limited: KBS is the principal public transport operator in Kenya with bus networks in Nairobi and Mombasa. The company in Mombasa also provides ferry services. Despite adverse operating conditions (poor road conditions, tardy fare increases, strong competition from matatus and the Nyayo Bus Services) the company has managed to maintain over the years a high level of efficiency without incurring financial losses. This has now come to an end as the rapidly growing fleet and lower fare levels of the Nyayo Bus Services are eroding the KBS's market share. Negotiations with GOK on the future of KBS are beginning to get underway. This is likely to involve a major change in the public transport situation in Nairobi and also Mombasa since the foreign owned holding company (United Transport International - UTI) is committed to giving up its public transport operations in Africa. How these changes are managed will have an important bearing on the quality and quantity of public transport services in Nairobi and Mombasa in both the short and medium-term.

4.22 The management and staff of the KBS companies represent a major technical resource which is almost without parallel in Africa. It will therefore be of the utmost importance for the future negotiations between the GOK and the UTI to recognize and retain these resources, particularly since these are precisely the resources that are missing within the Nyayo Bus Service Corporation. Aside from the obvious experience of the KBS staff in running a large bus fleet the staff training and development capability of KBS is considerable (see para 4.48)

4.23 Nairobi City Commission: Until 1983 the affairs of Nairobi were looked after by the Nairobi City Council. Persistent allegations of mismanagement and corruption created an unworkable climate. Central Government stepped in to abolish the Council and set up a Commission appointed by Government. The present Commission is served by several Departments including the City Engineer's Department which is responsible, amongst other activities, for roads and urban transport related matters. The Commission has a 25 percent share in the Nairobi operation of Kenya Bus Services Ltd.

4.24 The City Engineer's Department is responsible for road construction and maintenance, street lighting and traffic management. A Transportation Unit was set up in the City Engineer's Department in 1979 with the assistance of the World Bank. This Unit has considerable potential, but its implementation capabilities are severely restricted by lack of funding and qualified personnel. The Unit comprises a reasonably experienced engineer and five young engineers. Support staff include one technician, five draftsmen, two tracers, 12 enumerators, three drivers, and 12 laborers. These staff are mainly involved in the management of parking, traffic signal design and maintenance, minor works for pedestrians and buses, traffic signs and markings, and data collection. Loans from the German Government have enabled the Unit to implement well founded traffic

control schemes at some of the city's critical intersections in recent years.

4.25 The City Engineer's Department has a huge backlog of unperformed work in road maintenance, street lighting, traffic safety and management and parking control. Construction activities are at a standstill and maintenance activities are minimal. Road plant and equipment, including vehicles, have not been replaced for many years and have reached the end of their working life. The implementation capacity of the Department is severely limited by lack of finance and equipment.

4.26 The work backlog has created public pressure for improved services. But public understanding of the causes underpinning lack of performance is limited and colored by lingering perceptions of corruption or mismanagement from the days of the City Council. As a result, management is under considerable pressure to improve its performance. As part of the Government's drive to eliminate corruption terminations of senior officers have recently taken place. The overall situation is extremely frustrating and anxiety producing for the senior managers who are committed to professionalism in their jobs, but are unable to perform due to financial and manpower constraints. The current situation does not provide a propitious climate for job motivation, performance, development, or retention of top talent. Staff turnover has been high and many professionals have left for the private sector. Not-withstanding this situation, there remains a small core of committed professionals in the City Engineer's Department.

4.27 Motivation and on-the-job development in the City Engineer's Department have also been affected by a lack of new projects. For example, bridge and road design, and construction activities are important sources of intensive training for fresh graduates, but have become increasingly rare. The lack of maintenance plant, equipment and vehicles hinders on-the-job learning and competence-acquisition. The overall number of professional engineers has diminished over the years since many left to more challenging and more rewarding employment outside City Hall. This has left the Department with many vacant positions in its professional ranks and a thin, overstretched group of senior engineers with little time to devote to any intensive on-the-job training or coaching of the younger professionals. In turn this has contributed to the build-up of a group of relatively junior technicians and engineers now "ready" to take up positions of greater responsibility for which they have not been adequately prepared. It will be necessary to re-build the institutional, on-the-job training and developmental capability of the Department by a number of longer-term measures coupled with intensive medium-term efforts to increase numbers of professionals and their levels of knowledge, skills and specialized applied competence.

4.28 The present organization of the Nairobi City Commission is not conducive to effective management of the City Engineer's functions or the implementation of policy. The principal problem is one of fragmented responsibilities which necessitate time consuming internal coordination and result in implementation delays and inefficiencies. Policy initiatives on urban transport matters are rarely instigated by the City Commission, and those that are, are sometimes revoked by Central Government. Because urban transport policy effects so many different organizations and Ministries the

City Commission must work through the MLGPP if it wishes to innovate or do anything which involves policy changes. As discussed earlier, the MLGPP is bereft of technical skills in urban traffic and transport disciplines, and is therefore unable, on its own, to provide specialist advice to the City Commission or any other local authority.

4.29 At the working level the City Engineer's Department is limited in its ability to carry out its work program by a complex plethora of internal controls. Examples of these include the management of the City Engineer's stores by the City Treasurer and the heavily fragmented responsibilities concerning parking meter operations. Because the Department that is using the stores is not the Department that manages the stores, disputes can arise on the availability, quality and specification of spare parts, equipment and other materials. The operation of the parking meters is also cumbersome and inefficient. Dealing with even minor problems requires so many approvals that significant delays result. The Transportation Unit is responsible for the design and physical management of the parking system, the City Inspectorate is responsible for enforcement, the City Treasurer for the collection of money, the Town Clerk for litigation and the Road Maintenance Operations section for the repair of meters. - Because of the complex controls and fragmented responsibilities any systematic effort to strengthen the City Engineer's Department and its units would require a Commission-wide review of responsibilities.

4.30 A further obstacle to good management is the very steep chain of command in the City Engineer's Department. For example, for road maintenance the chain of command is: City Engineer, Deputy City Engineer, Assistant City Engineer, Chief Assistant Engineer, Section Head (parks, works, buildings and roads), Senior Assistant Section Heads, Supervisors, Foremen, Laborers i.e. nine levels from the City Engineer to laborer in an organization of approximately 2500. Such a system provides considerable scope for diluting accountability and excessive management controls.

4.31 As far as the Transportation Unit is concerned its principal problem, apart from a lack of trained professional staff and funding, is coordination. Coordination between the transportation unit and other departments within the Nairobi City Commission is not well defined. There is no direct coordination between the City's planning department and the unit. Development plans and proposals are not sent to the transportation unit for review and comments to ensure the adequate design and provision of access, parking, public transport and pedestrian facilities. There is no established coordination between the unit and the Department's operations section to ensure priorities in road network maintenance including pedestrian crossings, street lighting, etc. The work programs of the two sections are independent of each other.

4.32 A positive factor in terms of external coordination is the existence of the Nairobi Area Traffic Management Committee comprising the Kenya Police Traffic Division, the Nairobi City Commission, the Ministry of Transport and Communications, the Office of the President and Public Service Vehicle Operators (Kenya Bus Services, Nyayo Bus Corporation, Kenya Railways and Matatus). This committee provides coordination at the operational level and is the only means the Commission has of attempting to integrate public transport operations.

4.33 Other Local Authorities: A considerable number of the shortcomings observed in Nairobi are also in evidence in Mombasa and Kisumu. In particular, there is a lack of well qualified engineering professionals and there are many vacant posts at senior levels. In some cases less qualified engineers have been acting for several years. Outside Nairobi there are no traffic engineers and no access to advice on traffic, parking and transportation topics. Lack of finance has severely limited the implementation capabilities of the local authorities and the equipment resources are negligible. The mechanical workshops and City Engineer's maintenance yards have become the repository for broken down equipment. These adverse conditions have created a despondent atmosphere amongst all levels of staff and enthusiasm is lacking.

B. Institutional Reform

4.33 The two most important institutional issues that need to be addressed concern the development and implementation of urban transport policy. At the national level, the Urban Transport Policy Committee needs to be significantly strengthened if it is to play a vital role in improving transport efficiency and the cost effective allocation of the limited resources of central Government and local authorities. At the local level, the management, planning systems and procedures of the Nairobi City Commission need to be streamlined to improve the implementation capacity, quality and timeliness of the delivery of road and transport related services.

4.34 The present arrangement whereby an administrative Ministry is responsible for policy in what is a heavily technical sector may not be a workable solution in the longer term. The Urban Transport Policy Committee is an important forum for decision making and should be taking the lead in research and policy formulation. The fact that it is not, is more a reflection on the organization and staffing profile of the MLGPP which chairs the Urban Transport Policy Committee, rather than on the will of its senior management. There are several possible solutions to this problem in terms of the allocation of responsibility for urban transport policy. All of these solutions however, have a common element. That is the need to establish an urban transport secretariat, or unit, to serve the Urban Transport Policy Committee. This Unit would be responsible for researching and formulating policy alternatives, presenting them to the Committee and implementing the Committee's decisions. The Unit would provide a technical bridge between Government and Local Authorities on urban transport matters. It could also play a vital role in the supervision and coordination of the public transport sector with regard to fares policy and the provision and integration of services. However, its inputs in these areas would be strategic and policy related.

4.35 The decision with regard to the administrative location of an Urban Transport Policy Unit would require Government debate. The outcome of should clearly establish the lines of authority needed for the effective implementation of policies which affect several Ministries. However, since most of the key issues in the urban transport sector are concerned with either, the use of vehicles or road infrastructure investments, it would seem more appropriate to align the Unit with one of the Ministries respon-

!ble for these areas where there already exists a critical mass of .echnical expertise. In other countries it is most often the Ministry of Transport and Communications that takes this responsibility. This is because the MOT is usually intimately involved with investment decisions in the total transport sector. Urban transport is an important component of the transport sector and involves decisions affecting not only the regulation of the principal urban public transport modes (buses, taxis, cars, trains, ferries etc.), but also the allocation of investment in these modes.

4.36 In Nairobi, more so than in other Kenyan cities, there is a need to tackle the problems of inefficient management of road space and its maintenance. The current responsibility arrangements and level of technical and equipment resources in the Nairobi City Commission makes this objective difficult to attain. A thorough analysis of the functions and responsibilities of the City Engineer's Department and its associated departments is needed to rectify this situation. This review should focus on increasing the accountability of managers and streamlining service delivery systems. A critical aspect of the management review would involve training and the formulation of a manpower development program which would raise the capability of the Commission as a training ground for all levels of management and professionals and increase its attractiveness as an employer. At the same time a review of income generating activities should be undertaken to either increase revenue from existing sources or develop new sources.

C. Training Needs and Opportunities

4.37 A common critical issue amongst all the organizations involved in the urban transport sector is a lack of urban transport skills and access to relevant training opportunities. Training needs are particularly acute in the City Engineering Departments, Nyayo Bus Service Corporation and in the Ministry's concerned with urban transport matters (MLGPP, MOTC and MPW). In some instances, particularly that of the NBSC, technical assistance combined with training could be a more appropriate solution.

Training Needs

4.38 City Engineer's Departments: In any organization, manpower management is the tripartite responsibility of line management, top management and the Personnel & Training Unit. Manpower development and training is only one dimension of manpower management and cannot take place if there is no manpower planning. In the Nairobi City Engineer's organization, line management has little time for developing employees on-the-job and for organizing training opportunities. Because of the general lack of resources, top management is unable to play its role of supporting, encouraging, and freeing resources to assist line managers in their staff development responsibility. The Personnel and Training Department which should play an important administrative and support role, is not doing so.

4.39 There is no evidence of any systematic personnel performance appraisal and feedback system through which individual training needs can be determined, nor of any career progression or job-rotation developmental schemes. Presently, any foreign training must first be approved at Nairobi City Commission level and then by the Director of Personnel Management

under the Office of the President, through the Ministry of Local Government. In practice these approvals take several months and significant effort. In Mombasa and Kisumu training is negligible and opportunities are rarely offered to staff.

4.40 Training for Local Authorities needs to focus on all levels of management and technicians. Critical areas of training for Nairobi City Commission staff and other large urban Local Authorities include: basic and generic management principles; road maintenance planning, management and operations; traffic engineering and management, and design of road safety remedial measures; parking policy and management; transportation planning and evaluation methodology; and monitoring, data collection and analysis.

4.41 National Youth Service: The strengths of the NYS are government support, a new bus fleet, the commitment of its management, and the discipline and staff development capability of the National Youth Service. However, its management is inexperienced in bus operations and it does not have a seasoned cadre of supervisors and professionals. The existing training activities of the NYS are directed towards technical trades such as driving and maintenance of vehicles. Whilst these are important activities they do not fully respond to the current needs of the Nyayo Bus Services Corporation. Management and operational procedures need to be developed and institutionalized in key functional areas, such as, operations planning, cost accounting, financial controls, maintenance programs, fleet management, procurement and organization of training. This problem is compounded by the rapid growth of the fleet. The existing management is severely stretched and unable to devote the time necessary to plan and implement the management and training systems that need to be introduced. If the service expands to 510 buses by 1990 as proposed, the number of staff will need to increase by more than 2,000. Clearly to build up a managerial, professional and technical cadre of this scope, the company will require major recruitment and training inputs.

4.42 Training for Ministries: Training needs at the Ministerial level are most acute in the areas of transportation policy, transportation planning and traffic engineering and management. The Ministries of Local Government, Transport and Communications and Works should all acquire skills in transportation policy analysis and formulation. The Department of Physical Planning of the Ministry of Local Government, needs to improve its skills in transportation planning and traffic management, the Roads Department of the Ministry of Public Works needs to improve its skills in traffic engineering and remedial treatments for accident blackspots sites. Such training is necessary not only for the direct work load of the Ministries concerned, but also to develop an adequate reservoir of skills which can be used to provide an outreach advisory capability for the urban local authorities which have no specialist resources in these areas.

Training Opportunities

4.43 The mission's brief review of training opportunities identified four agencies which could either provide training in the areas mentioned above, or could form the locus for the development of in-country training opportunities in these fields. These agencies include the University of Nairobi, Kenya Polytechnic, the training aim of the Ministry of Public Works and Kenya Bus Services Ltd. A fifth agency ESAMI located in Arusha, Tanzania could also provide some appropriate training opportunities.

4.44 University of Nairobi: There are two departments within the University of Nairobi that offer programs with some relevance to the urban transport sector. These are:

(a) The Department of Urban & Regional Planning in the Faculty of Architecture. This Department offers a Master of Arts in urban and regional planning for engineers, economists and sociologists. The department has an academic staff of 12. Of this staff, half can be considered to have the necessary expertise for providing input to a transportation planning course for infrastructure in urban areas. This program produces generalist graduates of limited usefulness to the urban transport sector.

(b) The Department of Civil Engineering in the Faculty of Engineering. This Department offers an M.Sc. in Civil Engineering with an option in Transportation Engineering including the following specialization courses:

- Urban transportation planning I & II
- Pavement design I & II
- Traffic design and control operations
- Stations and terminals
- Theory of traffic flow
- Transportation safety and pollution control

This transportation engineering option can accommodate 5-10 students per academic year. At the end of the present academic year, two will graduate. There are 6 faculty members out of a total of 36 in the department who have the necessary expertise for teaching in the transportation option: one professor (highway engineering), two senior lecturers (highway engineering), one lecturer (construction management), two lecturers (highway materials).

4.45 The above capacity appears to be insufficient to meet the needs for developing high-quality, specialized professionals required by the urban transport sector. As a first step, the department of civil engineering should be strengthened to allow it to offer a full-fledged M.Sc. in Transportation and Highway Engineering rather than only the present option in transportation engineering. The department should also develop the requisite faculty skills and programs to deliver effective in-service courses. These should be designed at a practical level to upgrade the analytical and on-the-job skills and tools of experienced sector professionals in areas of public transport, urban traffic management (parking,

junctions design, road safety, surveys and studies), and transport planning and policy. In connection with the development of the faculty skills needed to teach such courses, an appropriate program of research and consultancy should be developed. The Department of Civil Engineering will require equipment, faculty exchanges, post-doctoral fellowships, and other university development inputs to achieve this goal. The resulting courses could provide an important regional resource.

4.46 The Kenya Polytechnic: The Department of Building and Civil Engineering at the Kenya Polytechnic offers a Higher Diploma option in highway and traffic engineering. This is a two and a half year program that includes a 6 month period of industrial training sandwiched between the two years of academic training. Students are typically employer-sponsored. Twenty students are presently enrolled, most of them through the Ministry of Public Works. Six or seven students graduate each year. Graduates are employed at the higher technician level by the public sector. In the private sector they are also often hired as professional engineers. The Department has two faculty members with the requisite specialized expertise for teaching the highway and traffic engineering option.

4.47 Staff Training Institution of the Ministry of Public Works: - This institution employs about 100 instructors to train 1,700-2,000 craftsmen and technicians from the Ministry of Public Works per year in - building, mechanical, electrical, mechanical building services, and roads. The quality of technical training is good. The institution also offers a set of specially developed supervisory courses for highway maintenance overseers, foremen, inspectors, senior inspectors and superintendents. These courses are based on some very practical, illustrated instructional materials developed with Swiss Development Cooperation. The capacity of this institution appears adequate to cover the needs of the urban transport sector for technicians, craftsmen and their immediate supervisors. Access for municipality personnel to these courses is possible.

4.48 Kenya Bus Services Ltd: The company runs four basic training programs: (a) craft apprenticeship; (b) technician apprenticeship; (c) skill improvement courses; and (d) modular training system for supervisors and managers. Each year it also trains and re-trains large numbers of drivers and conductors. All apprentices registered for craft apprenticeship undergo a three year program consisting of in-plant training, sandwiched with attendance of vocational training programs run by the Directorate of Industrial Training. Apprentices are tested at three stages for preliminary, intermediate and final proficiency. A similar program is run for technicians in cooperation with the Kenya and Mombasa Polytechnics. The skill improvement course varies in response to analysis of current needs. For example in 1988 excessive gearbox, power steering and brake failures were observed. Corresponding intensive courses for the company's mechanics were mounted. All managers and supervisors go through the company's Modular Training System which was adapted from the proven system developed by the International Labor Organization. If the training opportunities provided by KBS could be made available on a contract basis to the NBSC this would enable the Nyayo Bus Corporation to make a rapid start on training its fast expanding staff.

4.49 Eastern and Southern African Management Training Institute: At the present time ESAMI does not provide courses which deal specifically with urban transport issues. However, such a course is proposed for the future. The implementation of this course will be dependent on funding availability. ESAMI currently provides short courses (one to four weeks) in several topics which could be of interest to Kenya. These include, road maintenance, fleet operations management, costing and pricing of bus operations and road safety programs.

4.50 The above preliminary analysis shows that the urban transport training needs of Kenya could mostly be taken care of through existing agencies. However, these agencies would need strengthening in specific areas. The throughput would need to be increased and a wider variety of courses offered to suit the mid-career and development training needs of existing professionals.

V. RECOMMENDATIONS AND ACTION PROGRAM

A. Justification and Strategy

5.01 Urban transport plays a vital role in the economy of Kenya, particularly in Nairobi where a major share of GDP is generated and the urban transport needs of the low-income workers are most acute. Providing an efficient urban transport system that fully caters for the demands should therefore be a high priority. Such efficiency and supply levels are currently lacking in Kenya's urban areas due to low expenditures in road maintenance and lack of investment in road network capacity. In Nairobi severe competition for road space at peak hours results in traffic congestion, increased transport costs and low productivity of transport venicles. Fuel consumption is also high due to low travel speeds and stop and start travel conditions. An important share of transport resources (vehicles and fuel) are consumed in Kenya's urban centers. More than 65 percent of vehicles are registered in the three largest urban centers - of which 45 percent in Nairobi. The large numbers of vehicles congregating in the urban areas increases the chance of accidents. More than 30 percent of all accidents in Kenya occur in Nairobi.

5.02 Improving the efficiency of transport in Nairobi requires determined action on a number of parallel fronts. In the short-term there is a need to: (a) undertake a program of road rehabilitation and maintenance; (b) improve traffic management; (c) build missing links in the road network; (d) expand the capacity of certain main traffic arteries; (e) improve travel conditions for public transport vehicles 1/; (f) improve parking control and revenues; (g) improve travel conditions for pedestrians; and (h) reduce road accidents. A major part of this effort should focus on: (a) the central area where traffic congestion is most acute; and (b) the industrial area which suffers from poor accessibility.

5.03 In the central area there is an urgent need to develop and implement a parking policy which increases revenues, relegates non-essential parking to peripheral car parks and improves traffic enforcement. This policy should be complemented by the completion of the eastern by-pass which should remove through traffic from the central area. In the medium-term it will be necessary to implement a program of demand management measures combined with urban planning controls which limit the amount of traffic on the most congested parts of the road network. Studies to evaluate demand management measures and update the Nairobi Urban Growth Strategy should be undertaken.

5.04 The chances of successfully implementing such actions and maintaining an efficient urban transport system will depend in the longer-term on increasing the implementation capacity of the local authorities. This will require additional financial resources and strengthened technical capabilities. Studies to improve the efficiency and accountability of the City Engineer's Department, streamline its service delivery procedures and increase revenue generation need to be undertaken. Training opportunities

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1/ Bus priority measures such as bus lanes, busways and priority for buses at signalized intersections.

for urban transport related topics should be increased to provide the strengthened capabilities.

Central Government

5.05 The central Government program centers on the three areas; (a) urban transport policy development and implementation; (b) organization and management of the Nyayo Bus Service Corporation; and (c) road safety. It comprises technical assistance and training in all three areas. In addition equipment would be provided for the Traffic Department of the National Police.

5.06 Improvements in urban transport policy development and implementation would be encouraged through the establishment of a permanent secretariat to the Urban Transport Policy Committee. The functions of the secretariat are briefly discussed in para 4.34. Technical assistance would be provided to the Secretariat to carry out studies on key urban transport issues and develop policy recommendations. Training would also be provided for members of the Secretariat and staff from related Government Ministries. This would include training in transportation planning techniques. The development of sound maintenance, financial control and training systems within the Nyayo Bus Service Corporation is an urgent necessity. The program would provide for long- and short-term specialist technical assistance to assist NBSC.

5.07 A rational fares policy for the whole of the urban transport sector needs to be established in order to ensure that Government is not called upon to subsidize Nyayo buses, and the private sector operators are not forced out of the market by price distortions due to the adoption of unrealistic fare levels by NBSC. This can only be achieved by the NBSC adopting sound financial practices which reflect private sector commercial objectives. If subsidies are to be considered then these should be in the form of cross-subsidies from profitable routes towards "social services", whilst maintaining an overall level of profitability, or targeted towards those least able to pay.

5.08 The program of assistance to the Traffic Department of the National Police and National Road Safety Council would form part of a comprehensive program of action to reduce the number of road accidents in Kenya. The program would build on past efforts of the Police and the National Road Safety Council. Technical assistance would be provided for the development of a coordinated national road safety program focussing on remedial actions at accident blackspots, training, education and enforcement. Remedial action programs would be undertaken in the main cities focussing, amongst other things, on the reduction of pedestrian/vehicle accidents.

Local Government

5.9 The local Government program focuses on the three largest Municipal Authorities - Nairobi, Mombasa and Kisumu. It comprises physical works, equipment, technical assistance, training and studies. The main thrust of the program in all three cities would be to alleviate the large backlog of road rehabilitation and maintenance and improve traffic manage-

ment. Critical road sections and missing links in the road networks would be constructed together with selected widening of the principal traffic arteries. This would require a major investment in Nairobi, including the implementation of segregated busways to improve the efficiency of the public transport system. The list of projects included in the Tables 5.9 and 5.13 is based on the city's short and medium-term road program. This will need to be reviewed and priorities established. Provision has also been made in the program for: (a) the construction of a Causeway to link Mombasa Island to the southern mainland; and (b) the construction of a by-pass in Kisumu.

5.10 The majority of the equipment allocation in the program is to re-establish the maintenance capabilities of the City Engineer's Departments. In all three cities the efficiency and implementation capability of the Municipal work forces are severely constrained by lack of equipment and finance. The Municipal work force would focus on routine maintenance. The rehabilitation and periodic maintenance program would be mainly carried out by contractors. Technical assistance and training would focus on the expansion or development of in-country courses on road maintenance, traffic management and transportation planning.

5.14 A number of important studies are also proposed. These are aimed at: (a) streamlining planning and implementation capacity in Nairobi City Commission; (b) planning for urban growth; (d) mobilizing local resources; and (c) transport action programs. A critical need within the Nairobi City Commission is to rationalize the urban transport planning and management linkages with other departments. An organization and management study would be carried out in the Nairobi City Commission to develop recommendations which would improve the delivery and quality of traffic and transport services by eliminating bottlenecks and improving coordination.

5.15 A parking study would be carried out to rationalize existing parking and land use policies in the central area and develop a parking action program. This program would also have as one its major objectives improved revenue generation. A study on staggering of work hours and school bus systems would attempt to examine the potential for spreading or reducing peak hour traffic demands. A study on revenue generation would examine the possibility of mobilizing resources for the Municipality. A traffic management study would develop detailed designs of a comprehensive central area traffic plan involving traffic signals, bus priority measures, parking and bus terminal improvements. Finally, once the results of the national census, due to take place in August 1989 are known, there will be a need to update the metropolitan growth strategy in Nairobi and Mombasa where development pressures are such that they are having a major impact on transportation needs.

B. Cost Estimates and Financing

5.16 Based on the above strategy a preliminary investment program for urban transport has been developed for the three largest cities of Kenya. The investment program covers a five year period and focuses on public sector investments. It should be emphasized that this program represents a first attempt to develop an overall urban transport investment package. The list of components should now be subject to detailed review and evaluation.

5.17 The program is somewhat ambitious in that it attempts to eliminate the backlog of municipal road maintenance and road construction over a relatively short period. Constraints on finance and implementation capacity will certainly require the program to be extended over a longer time horizon. Priorities will therefore need to be determined. This will involve detailed feasibility studies and the establishment of a priority ranking system based on economic analysis. The proposed program provides a comprehensive approach to resolving urban transport problems. It deals with physical improvements (civil works), equipment requirements, institutional strengthening (technical assistance and training), and policy and development studies.

5.18 A summary and illustrative cost estimate for the proposed program in the three principal cities is shown in Table 5.1. This is backed up with detailed costs for physical works and equipment. The detailed cost estimates for Nairobi are presented in Tables 5.2 to 5.14, those for Mombasa are presented in Tables 5.15 to 5.24 and those for Kisumu are presented in Tables 5.25 to 5.34. Prices have been obtained from local sources and are expressed in 1988 US$.

5.17 The first estimate of the cost of the program is of the order of US$ 216 million with almost 53 percent devoted to road maintenance and rehabilitation. Approximately two-thirds of the program costs are concentrated in Nairobi with 20 percent in Mombasa and 16 percent in Kisumu. Finance for the action program will be borne by the Municipalities and central Government. To implement such a program Government will need to review its public expenditure priorities in order to make more finance available for the large urban centers. Municipalities will also need to review their priorities and increase local resource mobilization. Borrowing from the LGLA and the donor community should also be considered as a means of financing part of the program.

Table 1.1: NATIONAL AND URBAN POPULATION IN 1962, 1969, 1979 AND 2000 a/.

	1962		1969		1979		2000
Urban Population	748,000		1,080,000		2,307,000		8,600,000
Urban Share	8.7%		9.9%		15.1%		28.0%
Growth Rate		5.4%		7.9%		6.8%	
Rural Population	7,888,000		9,868,000		13,015,000		22,100,000
Rural Share	91.3%		90.1%		84.9%		72.0%
Growth Rate		3.2%		2.8%		2.7%	
Total Population	8,636.000		10,948,000		15,322,000		30,700,000
Growth Rate		3.3%		3.4%		3.4%	

a/ Estimates based on 1969 to 1979 growth rates and assumed growth rates of Nairobi 5.0%, Mombasa 3.3 % and other existing centers 7.4%.

Source: Population Census 1962,1969 and 1979.

Table 1.2: DISTRIBUTION OF TOWNS BY SIZE IN 1969 AND 1979
(in Thousands)

Population Range	1969 No.of Towns	1969 Total Population	1969 Per cent Urban Popln.	1979 No.of Towns	1979 Total Population	1979 Per cent Urban Popln.
100,000 and over	2	756	70%	3	1,322	57%
20,000 - 100,000	2	80	7%	13	568	25%
10,000 - 20,000	7	91	8%	10	140	6%
5,000 - 10,000	11	71	7%	22	154	7%
2,000 - 6,000	25	82	8%	42	128	5%

Source: Population Census, 1969 and 1979

Table 1.8: POPULATION PROJECTIONS FOR THE PRINCIPAL URBAN CENTERS - 1980/2000 a/

Urban Centers	1979 b/	1985	1990	1995	2000	Growth Rate c/	Urban Propn 2000
Nairobi	827,775	1,108,000	1,414,000	1,803,000	2,300,000	5.0%	27%
Mombasa	341,148	419,000	497,000	590,000	700,000	3.5%	8%
Kisumu	152,843	208,088	269,395	348,768	451,516	5.3%	5%
Nakuru	92,851	142,499	203,626	290,975	415,792	7.4%	5%
Machakos	84,820	129,407	184,917	264,240	377,590	7.4%	4%
Meru	70,439	108,103	154,476	220,740	315,430	7.4%	4%
Eldoret	50,503	77,507	110,755	158,265	226,155	7.4%	3%
Thika	41,324	63,420	90,625	129,500	185,051	7.4%	2%
Nyeri	35,753	54,870	78,408	112,042	160,104	7.4%	2%
Kakamega	32,025	49,149	70,232	100,359	143,410	7.4%	2%
Kisii	29,661	45,521	65,048	92,951	132,824	7.4%	2%
Kericho	29,603	45,432	64,921	92,769	132,564	7.4%	2%
Kitale	28,327	43,474	62,122	88,771	126,850	7.4%	1%
Bungoma	25,161	38,615	55,179	78,849	112,672	7.4%	1%
Busia	24,857	38,148	54,512	77,896	111,311	7.4%	1%
Malindi	23,275	35,720	51,043	72,939	104,227	7.4%	1%
Total for urban centers	1,866,390	2,571,234	3,375,217	4,449,122	5,891,270	5.6%	69%
Other existing urban centers	441,000	676,806	967,132	1,381,997	1,974,824	7.4%	23%
New urban centers	-	250,000	357,241	510,485	729,465	7.4%	8%
Total urban population	2,307,390	3,498,040	4,699,590	6,341,604	8,595,559	6.5%	100%
Total Population	15,322,000	18,687,199	22,049,640	26,017,095	30,698,426	3.4%	
Urban proportion	15.1%	18.7%	21.3%	24.4%	28.0%		

Notes: a/ Urban centers with populations exceeding 20,000 in 1979.
b/ Census population based on 1979 boundaries.
c/ Assumed growth rates.

Source: 1979 population census. Kenya: Economic Development and Urbanization Policy, Table 1.4, World Bank Report No 4148-KE.

Table 1.4: ROAD VEHICLE FLEET - VEHICLES WITH CURRENT LICENCES a/

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Motor cars	98285	99947	104272	109121	110431	113629	114197	115316	116852	122300	126188	127351	133335
Vans, pick-ups	43740	44543	48264	50203	52249	55524	57969	59358	59618	64805	69441	69457	73718
Trucks	20675	20732	21007	22185	23115	23594	23956	23634	23634	24769	26186	25190	27916
Buses	4605	4706	4772	4825	4985	5075	5432	5432	5959	7001	8217	8216	9172
Motor Cycles	11312	11870	12763	13746	14573	15343	16345	16345	16870	17944	18987	18990	20121
Others b/	12297	12842	14121	15491	16316	16703	17318	17387	17493	18454	19415	19415	20345
Trailers	8607	8806	9152	9876	10360	10567	10915	10693	10839	11337	11784	11814	12272
Total	199721	203446	214351	225447	232029	240435	246132	248345	251265	266610	280218	280435	296879

Notes: a/ Vehicles for which licences are renewed, plus those registered for the first time, during the year.
All government vehicles are included, except military vehicles.
b/ Includes road construction vehicles, farm tractors and three-wheelers.

Sources: 1973-80, Statistical Abstract, 1982; 1981-87, Statistical Abstract, 1987.
"Road Transport branch" gives a total of 282,930 for 1985, 300,279 for 1986 and 316,773 for 1987.

Table 1.5: ROAD VEHICLE FLEET - NEW REGISTRATIONS

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Motor cars	7626	6923	9813	10591	7123	9179	5513	4545	4995	5448	5051	5984	6324
Vans, pick-ups	3878	4156	7354	5717	5979	7454	6808	5447	5187	4652	4652	4261	6210
Trucks	1262	1417	1857	2848	2669	2255	2165	1355	1434	1421	1421	1726	1512
Buses	404	417	385	374	491	425	711	625	584	1042	1217	954	1049
Motor Cycles	986	1316	1707	1861	1757	1749	2045	1506	985	1124	1046	1131	1309
Others (a)	1249	1348	2162	2336	1934	1421	1684	1059	1135	961	933	956	2233
Trailers	587	669	827	1244	1080	763	922	524	491	498	477	458	589
Total	15992	16246	24105	24971	20883	23246	19848	15061	14791	15146	14797	15472	19226

Table 1.6: ROAD VEHICLE FLEET - NEW VEHICLES AS PERCENTAGE OF EXISTING LICENCES

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Motor cars	7.8%	6.9%	9.4%	9.7%	6.5%	8.1%	4.8%	3.9%	4.3%	4.5%	4.0%	4.7%	4.7%
Vans, pick-ups	8.9%	9.3%	15.2%	11.4%	11.4%	13.4%	11.7%	9.2%	8.7%	7.2%	6.7%	6.1%	8.4%
Trucks	6.0%	6.8%	8.8%	12.8%	11.5%	9.6%	9.0%	5.7%	6.1%	5.7%	5.4%	6.9%	5.4%
Buses	8.8%	8.9%	8.1%	7.8%	9.8%	8.4%	13.1%	11.5%	9.8%	14.9%	14.8%	11.6%	11.4%
Motor Cycles	8.7%	11.1%	13.4%	13.5%	12.1%	11.4%	12.5%	9.2%	5.7%	6.3%	5.5%	6.0%	6.5%
Others (a)	10.2%	10.5%	15.3%	15.1%	11.2%	8.5%	9.7%	6.1%	6.5%	5.2%	4.8%	4.9%	11.0%
Trailers	6.8%	7.6%	9.0%	12.6%	9.9%	7.2%	8.4%	4.8%	4.5%	4.4%	4.0%	3.9%	4.8%
Total	8.0%	8.0%	11.2%	11.1%	9.0%	9.7%	8.1%	6.1%	5.9%	5.7%	5.3%	5.5%	6.5%

Table 1.7: ROAD VEHICLE FLEET - COMPOSITION

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Motor cars	49.2%	49.1%	48.6%	48.4%	47.6%	47.3%	46.4%	46.4%	46.5%	45.9%	45.0%	45.4%	44.9%
Vans, pick-ups	21.9%	21.9%	22.5%	22.3%	22.5%	23.1%	23.6%	23.9%	23.7%	24.3%	24.8%	24.8%	24.8%
Trucks	10.5%	10.2%	9.8%	9.8%	10.0%	9.8%	9.7%	9.5%	9.4%	9.3%	9.3%	9.0%	9.4%
Buses	2.3%	2.3%	2.2%	2.1%	2.1%	2.1%	2.2%	2.2%	2.4%	2.6%	2.9%	2.9%	3.1%
Motor Cycles	5.7%	5.8%	6.0%	6.1%	6.3%	6.4%	6.6%	6.6%	6.7%	6.7%	6.8%	6.8%	6.8%
Others	6.2%	6.3%	6.6%	6.9%	7.0%	6.9%	7.0%	7.0%	7.0%	6.9%	6.9%	6.9%	6.9%
Trailers	4.3%	4.3%	4.3%	4.4%	4.5%	4.4%	4.4%	4.4%	4.3%	4.3%	4.2%	4.2%	4.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 1.8: ROAD VEHICLE FLEET - GROWTH RATES

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	Growth Rate 1977-87	Growth Rate 1982-87
Motor cars	1.7%	4.3%	4.7%	1.2%	2.9%	0.5%	1.0%	1.3%	4.7%	3.2%	0.9%	4.7%	2.5%	2.2%
Vans, pick-ups	1.8%	8.4%	4.0%	4.1%	6.3%	4.4%	2.4%	0.4%	8.7%	7.2%	0.0%	6.1%	4.5%	3.7%
Trucks	-0.7%	1.3%	5.6%	4.2%	2.1%	1.5%	-1.3%	0.0%	4.8%	5.7%	-3.8%	10.8%	2.0%	1.0%
Buses	2.2%	1.4%	1.1%	3.3%	1.8%	7.0%	0.0%	9.7%	17.5%	17.4%	0.0%	11.6%	5.7%	8.6%
Motor Cycles	4.9%	7.5%	7.7%	6.0%	5.3%	6.5%	0.0%	3.2%	6.4%	5.8%	0.0%	6.0%	4.8%	3.0%
Others	4.4%	10.0%	9.7%	5.3%	2.4%	3.7%	0.3%	0.7%	5.5%	5.2%	0.0%	4.8%	4.2%	2.3%
Trailers	2.3%	3.9%	7.9%	4.9%	2.0%	3.3%	-0.2%	-0.5%	4.6%	3.9%	0.3%	3.9%	3.0%	1.6%
Total	1.9%	5.4%	5.2%	2.9%	3.6%	2.4%	0.9%	1.2%	6.1%	5.1%	0.1%	5.9%	3.3%	2.6%
Growth Rate over previous 5 years						3.8%	3.9%	3.0%	2.2%	2.8%	3.1%	2.6%		

Table 1.9: MOTORIZATION AND CAR OWNERSHIP

	1975	1980	1985	1987	2000 a/
Population ('000s)	13,373	15,848	18,726	20,020	30,700
Total Motor Vehicles	199,721	240,485	280,218	296,879	414,471
Passenger Cars	98,285	113,629	126,188	133,335	172,262
Buses	4,605	5,075	6,217	9,172	26,094
Vehicles/1000 popln.	14.93	15.18	14.96	14.83	13.50
Cars/1000 popln.	7.35	7.17	6.73	6.76	5.61
Population/Bus	2,904	3,122	2,279	2,202	1,176

a/ Mission estimate

Source: Statistical Abstracts and National Census

Table 1.10: IMPORTS AND EXPORTS
(US$ millions)

	1981	1982	1983	1984	1985	1986	1987
Vehicle Imports	119	85	56	90	95		
Fuel Imports			501	466	461	300	349
Fuel Exports			202	197	154	132	123
Net Fuel Imports a/			299	269	307	168	226
Non-oil Exports			749	850	802	1049	793
Proportion of: Vehicle Imports to Non-oil Exports			7.5%	10.6%	11.8%		
Net Oil Imports to Non-oil Exports			39.9%	31.6%	38.2%	16.0%	28.4%

a/ All fuels.

Source: Government Accounts, Statistical Abstract 1987.

Table 1.11: VEHICLE FLEET REGISTERED IN URBAN AREAS

Area	1985	1986	1987
National	280,218	280,485	296,879
Nairobi	124,300 (44%)	131,000 (47%)	139,000 (47%)
Mombasa	40,000 (14%)	42,000 (15%)	44,000 (15%)
Kisumu		9,600 (3%)	10,200 (3%)

Source: The Bus and Rail Commuter Patterns: The Need for an Alternative Transport Planning, E.M.Irandu, Department of Geography, Nairobi.

Table 1.12: MODAL SPLIT IN NAIROBI AND MOMBASA

Mode	Nairobi 1971	Nairobi 1981	Mombasa 1978
Car	38%	22%	18%
Public Transport	14%	50%	14%
Walk	44%	24%	61%
Cycle	3%	} 4%	7%
Other	1%	}	-

Sources: Nariobi Metropolitan Growth Strategy; Mazingira Institute Matatu Study; Mombasa Transportation Study.

Table 1.13: MODAL SPLIT IN CENTRAL AND INDUSTRIAL AREA OF NAIROBI (1979) a/

Mode	Central Area	Industrial Area
Car	41%	21%
Public Transport	40%	26%
Walk	16%	53%
Cycle	1%	n.a.%
Other	2%	n.a.%

a/ Modal split of inbound trips between 07:00 and 09:00 hours.

Source: Nairobi Urban Transport Project

Table 1.14: PUBLIC TRANSPORT SUPPLY IN NAIROBI

Year	Popul-ation	KBS Buses	Matatus Equiv. Buses	NYS Buses	Total Equiv. Buses	Popul-ation per Bus
1970	534,000	166			166	3217
1978	629,000	285	86		371	1695
1977	776,000	317	303		620	1252
1979	828,000	317	360		677	1223
1987	1,221,000	301	368		669	1825
1989	1,347,000	297	404	100	801	1682
1990	1,414,000	250	415	155	820	1724

Assumptions:
Matatu fleet comprised of 50% 25 seaters and 50% 16 seaters.
1989 Matatu fleet estimated.
Population after 1979 estimated.

Source: KBS, Bureau of statistics

Table 2.1: KENYA BUS SERVICES LIMITED FINANCIAL RESULTS

PROFIT AND LOSS ACCOUNT

	Actual 1983	1984/85	1985/86	1986/87	1987/88	Projected 1988/89	1989/90	1990/91
TURNOVER	11977	16075	15001	16929	18327	19779	21174	22443
EXPENDITURE								
Running Expenses	10598	14483	12880	14414	16418	17718	18962	20099
Interest	411	571	613	679	663	716	766	812
Depreciation	609	874	914	1119	1205	1300	1392	1476
Exchange Losses	39	41	238	99	882	412	441	468
Tax	0	0	0	0	0	0	0	0
Depreciation Write Back	123	0	0	222	0	0	0	0
Extraordinary Item	0	45	39	0	147	159	170	180
PROFIT FOR DISTRIBUTION	443	151	342	840	-189	-204	-218	-231
Dividend	96	19	100	200	0			
Profit Retained	347	132	242	640	-189			

Note: 1984/85 is 15 month period

BALANCE SHEET

	Actual 1983	1984/85	1985/86	1986/87	1987/88	Projected 1988/89	1989/90	1990/91
ASSETS								
Fixed Assets								
Properties	1536	1381	1272	1528	1457	1572	1683	1784
Vehicles	4043	5324	6910	6870	6608	7132	7634	8092
Plant, Equipment	124	150	132	185	435	469	503	533
Work in Progress, Fees	457	715	497	0	711	767	821	871
Current Assets								
Stocks	915	1160	1247	1606	1721	1857	1988	2108
Debtors	276	436	525	1055	734	792	848	899
Cash	0	0	0	45	5	5	6	6
Total	7351	9166	10583	11289	11671	12596	13484	14292
LIABILITIES								
Current Liabilities								
Creditors	1153	1728	2183	3590	4542	4902	5248	5562
Other Loans	693	995	978	875	723	780	835	885
Bank Overdraft	749	972	882	0	205	221	237	251
Dividends Payable	149	23	119	300	289	312	334	354
Share Capital	963	963	963	963	963	1039	1113	1179
Reserves	1933	2016	2223	2967	2778	2998	3210	3402
Shareholders' Loans	650	889	851	805	957	1033	1106	1172
Loans Payable	1061	1580	1944	1270	708	759	812	861
Lease Obligations	0	0	438	519	511	551	590	626
Total	7351	9166	10581	11289	11671	12596	13484	14292

Source: Kenya Bus Services

Table 2.1: KENYA BUS SERVICES LIMITED FINANCIAL RESULTS (continued)

SOURCES AND APPLICATION OF FUNDS

	Actual 1983	1984/85	1985/86	1986/87	1987/88	Projected 1988/89	1989/90	1990/91
SOURCES								
Profit/Loss	443	151	342	840	-189	-204	-218	-231
Tax	0	0	0	0	0	0	0	0
Depreciation	483	829	875	897	1058	1142	1222	1296
Profit/Loss on Sale of Assets	-12	-24	37	0	45	49	52	55
Unrealized Exchange	39	41	238	99	382	412	441	468
Total from Operations	956	997	1492	1836	1296	1399	1497	1587
Sale of Fixed Assets	29	103	60	7	81	87	94	99
Change of Wk in Progress	-35	-295	185	497	-711	-767	-821	-871
Lease Finance and Loans	891	2211	1894	289	248	268	287	304
Total Funds Generated	1841	3016	3631	2629	914	986	1056	1119
APPLICATIONS								
Dividend Paid	53	149	0	19	11	12	13	13
Fixed Assets	803	2103	2466	1071	1154	1245	1333	1413
Loans Repaid	778	1190	1061	922	903	975	1043	1106
Lease Payments	0	0	92	182	260	281	300	318
Tax Payments	0	2	4	0	0	0	0	0
Change in Working Cap.	-29	-169	-47	-491	-1158	-1250	-1338	-1418
Total Funds Applied	1605	3275	3576	1703	1170	1263	1352	1433
Net Change in Funds	236	-259	55	926	-256	-276	-296	-313

Source: Kenya Bus Services

Table 2.2: KENYA BUS SERVICES MOMBASA LIMITED FINANCIAL RESULTS

BALANCE SHEET

	Actual 1983	1984/85	1985/86	1986/87	1987/88	Projected 1988/89	1989/90	1990/91
ASSETS								
Fixed Assets								
Properties	546	539	529	677	591	638	683	724
Motor Vehicles	1752	2210	2641	2582	2978	3209	3435	3641
Plant, Equipment	44	66	94	118	141	152	163	173
Ferries	184	189	204	174	141	152	163	173
Work in Progress, Fees	110	141	420	531	0	0	0	0
Current Assets								
Stocks	171	222	481	443	406	438	469	497
Debtors	142	131	220	277	300	324	347	367
Cash	1	1	1	1	85	92	98	104
Total	2950	3499	4570	4798	4637	5004	5357	5678
LIABILITIES								
Current Liabilities								
Creditors	425	566	538	1187	1281	1382	1480	1569
Other Loans	224	290	388	537	341	368	394	418
Bank Overdraft	249	423	544	26	0	0	0	0
Dividends Paid	235	75	135	90	210	227	243	257
Share Capital	470	470	470	470	470	507	543	576
Reserves	1120	1401	1573	1844	1972	2128	2278	2415
Shareholders' Loans	0	0	51	0	0	0	0	0
Loans Payable	227	274	795	680	363	392	419	445
Lease Obligations	0	0	76	14	0	0	0	0
Total	2950	3499	4570	4798	4637	5004	5357	5678

SOURCES AND APPLICATION OF FUNDS

	Actual 1983	1984/85	1985/86	1986/87	1987/88	Projected 1988/89	1989/90	1990/91
SOURCES								
Profit/Loss	389	435	319	304	550	594	635	674
Tax	63	0	0	2	48	52	55	59
Depreciation	181	326	325	194	261	282	302	320
Profit/Loss on								
Sale of Assets	8	-20	-8	5	4	4	5	5
Unrealized Exchange	-14	-14	74	48	76	82	88	93
Total from Operations	622	727	715	553	939	1013	1085	1150
Sale of Fixed Assets	8	22	7	57	78	84	90	96
Change of Wk in Prog.	-110	-30	-279	-111	531	573	613	650
Lease Finance and Loans	298	473	1012	696	243	262	281	298
Total Funds Generated	818	1192	1455	1195	1791	1933	2069	
APPLICATIONS								
Dividend Paid	0	235	0	75	0	0	0	0
Fixed Assets	694	805	800	249	743	802	858	910
Loans Repaid	226	345	340	622	782	844	903	958
Lease Payments	0	0	0	92	158	171	183	193
Tax Payments	55	54	0	10	0	0	0	0
Change in Working Cap.	-74	-152	356	-461	-205	-221	-237	-251
Total Funds Applied	901	1287	1496	587	1478	1595	1708	1810
Net Change in Funds	-83	-95	-41	608	313	338	362	383

Source: Kenya Bus Services (Mombasa)

Table 2.3: COMPARISON OF PERFORMANCE PARAMETERS FOR KBS OPERATIONS

Performance Indicator	KBS Nairobi	KBS Mombasa	International Norm
Accidents/100,000 km	1.4	0.5	1.5 - 3.0
Average Fuel Consumption (Liters/100km)	33.9	34.0	25 - 50
Passengers/bus/day			
City	1,471	1,548	1,200 - 1,500
Peri-urban			
Km/bus/day	257	357	210 - 260
Staff/Operating Bus	8.3	7.3	3 - 8
Cost/Passenger/Km (US cents)	1.6	2.5	2 - 5

Source: KBS Companies and World Bank Technical Paper No. 68.

Table 2.4: GROWTH OF KENYA BUS FLEET AND MATATUS IN NAIROBI

Year	KBS Fleet	Passengers Carried (millions)	Passengers/ per bus	Matatus (Estimated) a/
1970	166	55.2	911	
1971	195	67.2	944	
1972	239	85.2	976	
1973	264	87.6	909	375
1974	284	86.4	833	538
1975	290	84.0	793	700
1976	288	83.6	795	969
1977	285	83.6	803	1320
1978	291	91.2	858	1434
1979	317	98.4	850	1567
1980	314	99.7	870	
1981	316	103.0	893	1704
1982	306	115.6	1035	
1983	302	131.1	1189	
1984	303	125.9	1138	
1985	293	136.0	1267	
1986	298	145.1	1377	
1987	301	142.0	1410	
1988	298		1525	1592 b/

a/ Wazingira Institute Matatu Report
b/ KBS Survey

Source:Kenya Bus Services

Table 2.5: MATATU OPERATORS PROFIT AND LOSS ACCOUNT

In order to provide estimates of the profitability of matatu operations, pro-forma profit and loss accounts and cash-flows have been prepared and have been compared with the Mazingira Institute Study of 1982. The estimates are set out below:

Assumptions:

- a new Isuzu (General Motors) 3.6, operated for 3 years and then sold, with seating for 26 passengers;
- average trip distance of 11km between terminals;
- average fare of Ksh 3.50;
- 13½ hour day, 300 working days p.a.;
- 12 round trips per day;
- average load of 30 passengers

The on-the-road capital costs are assumed to be KSh 630,000, and it is assumed the vehicle can be sold for KSh 150,000 at the end of the third year. Financing terms are given above.

These estimates imply a very high level of profitability for the well organized matatu owner, which is consistent with the growth of the sector. Sensitivity tests on basic assumptions do nothing to undermine this conclusion.

The pro forma matatu profit and loss account (in Ksh '000s) is as follows:

	Year 1	Year 2	Year 3	% Operating Costs	
				Current Estimates (average)	Mazingira Institute (Oct 1982)
Income from fares	36.15	36.15	36.15		
Running Expenses					
Wages	8.30	8.30	8.30	}	
Bonuses	1.00	1.00	1.00	} 17.4%	11.5%
Labor Expenses	0.90	0.90	0.90	}	
Tires	1.95	1.95	1.95	6.5%	3.6%
Services and Maintenance	1.75	2.02	2.31	6.8%	6.1%
Fuel	5.25	5.25	5.25	17.5%	31.3%
Insurance	4.75	3.60	2.45	12.0%	7.1%
Miscellaneous (1)	3.78	3.60	3.43	12.0%	6.7%
Sub-Total	22.68	21.62	20.60	72.2%	66.3%
Depreciation	6.17	6.17	6.17	20.6%	20.6%
Interest	4.81	1.61	0.00	7.2%	13.2%
Profit/Loss	2.49	6.75	9.39	100.0%	100.0%
Owners' Cash Flow (4 years):	-8.96	2.38	15.55	7.50	

Performance Indicators:

Matatu owners return on capital = 64%
Operating ratio (average) = 0.77
Total Cost/Passenger Km (Ksh) = 0.25 (US 1.4 cents)

a/ Miscellaneous includes licenses, route payments, bribes, minor accidents etc., and is assumed to be 20% of operating costs.

b/ Mazingira Institute does not include depreciation, so same per cent is assumed as current estimates. Fuel costs are higher for Mazingira Institute as a petrol engine vehicle was used.

Table 2.6: FERRY VESSEL AGE AND CAPACITY IN MOMBASA

Vessel	Date Commissioned	Car Capacity	Pedestrian Capacity (with cars)
St. Michael	1960	21	200
Mvita	1969	36	500
Safina	1975	46	400

Source: KBS (Mombasa)

Table 2.7: FERRY TOLL CHARGES IN MOMBASA

	KSh	US$
Car (4.5 meter)	11	0.59
Kombi (5 meter)	19	1.02
Truck/Bus (12 meter)	78	4.19
Petrol Tanker	110	5.91

Source: KBS (Mombasa)

Table 2.8: VEHICULAR TRAFFIC GROWTH AT THE LIKONI FERRY
(Thousands)

Year	Trucks Pick-ups	Cars Mini-bus	Total	Growth Rate
1972	199	334	533	
1973	214	333	547	2.6%
1974	235	349	584	6.8%
1975	265	361	626	7.2%
1976	244	358	602	-3.8%
1977	225	428	653	8.5%
1978	256	445	701	7.4%
1979	276	487	762	8.7%
1980	301	518	819	7.5%
1981	307	507	814	-0.6%
1982	295	464	759	-6.8%
1983	272	462	734	-3.3%
1984	261	481	742	1.1%
1985	271	499	770	3.8%
1986	281	526	807	4.8%
1987	295	529	824	2.1%
1988 a/	309	532	842	2.1%

a/ Estimate based on first 9 months.
Source: KBS (Mombasa)

Table 2.9: NBSC REVENUES AND EXPENDITURES
(K£ millions)

	FY87/88	FY88/89 (6 months)
Revenues	1.039	
Running Expenses a/	0.686	0.998

a/ It is not clear precisely the range of items which have been included in these running expenses but, certainly, labor, fuel, tires, maintenance and other direct running costs are in, but administrative overheads may not be.

In order to establish an estimate of the profitability of the NBSC operation it was necessary to construct a pro-forma profit and loss account. This has been done as a projection for the next three years, 1988/89 to 1990/91, utilizing the above financial operating data for NBSC as a guide to the future, and also taking into account the capital investment program. The following basic assumptions have been made in constructing the pro-forma profit and loss accounts set out below:

- Revenues/bus and Running Expenses/bus are as given above for 1988/89. No inflation is assumed.
- The capital program is as follows (K£ millions).

	FY88/89	FY89/90	FY90/91
No. of buses	142	250	510
Cost of Fleet	11.3	20.0	40.8
% Loan Finance for Fleet	nil	17.3	28.9
Cost of Depot (All equity financed)			30.0

- Buses are assumed to be depreciated over 15 years and properties over 40 years.
- Loan finance for buses is assumed to be at 14 percent interest over 12 years.

With these assumptions the pro-forma profit and loss accounts for NBSC are as follows:

Table 2.10: NBSC PROJECTED PROFIT AND LOSS ACCOUNT
(K£ millions)

	FY88/89	FY89/90	FY90/91
Revenues	2.93	5.16	10.53
Running Expenses	2.40	4.22	8.60
Operating Profit/Loss	0.54	0.94	1.92
Depreciation	0.76	1.33	2.44
Interest	0.00	0.48	1.65
Profit/Loss	-0.22	-0.88	-2.16
Operating Ratio	1.08	1.08	1.05
Return on Capital Employed	-2.0%	-4.4%	-3.6%

Source: Mission Estimates

Table 2.11: RAILWAY COMMUTER SERVICES IN NAIROBI - PASSENGERS, REVENUES AND COSTS (ONE YEAR)

Month	Passengers	Revenues (Ksh)	Costs (Ksh)
October 1987	81,968	194,557	1,109,172
November	78,022	186,332	1,161,989
December	60,768	144,586	1,161,989
January 1988	60,535	142,503	1,056,534
February	74,692	175,584	1,056,534
March	101,822	242,695	1,161,989
April	77,624	181,367	1,056,534
May	81,618	194,816	1,003,528
June	93,857	225,678	1,109,157
July	92,270	223,224	1,200,717
August	91,972	222,168	1,257,894
September	97,475	234,416	1,257,894
Total	992,618	2,367,916	13,593,928

Source: Kenya National Railways

Table 2.12: ROAD INVENTORY IN NAIROBI, MOMBASA AND KISUMU
(Kilometers)

City	Category of Road	Length	Condition Good	Fair	Poor	New
Nairobi	Trunk Roads	250	150	50	50	
	Secondary Roads	1,050	350	200	500	
	Unpaved Roads	200			200	
	Private Roads	400			400	
	Total	1,900	500	250	1,150	
		(100%)	(26%)	(13%)	(61%)	
Mombasa	Trunk Roads	80	40	20	20	
	Secondary Roads	180	20	60	100	
	Unpaved Roads	50		5	45	
	Private Roads					
	Total	310	60	85	165	
		(100%)	(19%)	(27%)	(53%)	
Kisumu	Trunk Roads	50	25	15	10	
	Secondary Roads	80	16	24	40	
	Unpaved Roads	50		5	45	
	New Roads a/	120				120
	Total	300	41	44	95	120
		(100%)	(14%)	(15%)	(31%)	(40%)
Grand Total		2,510	601	379	1,410	120
		(100%)	(24%)	(15%)	(56%)	(5%)

a/ These are roads in built up areas that should have been constructed as part of the development but have never been built.
Source: Joint Mission and Municipality Estimates

Table 2.13: STAFFING SITUATION IN CITY ENGINEER'S DEPARTMENTS 1969

	Nairobi	Mombasa	Kisumu
Professional Posts			
Established posts	77	37	16
Posts filled	31	26	13
% Posts filled	40%	70%	81%
Semi-Professional Posts			
Established posts	78		
Posts filled	41		
% Posts filled	53%		
Technicians			
Established posts	270	116	80
Posts filled	140	86	40
% Posts filled	52%	74%	50%
Labor Force			
Established posts	1988	1092	80
Posts filled	400	946	40
% Posts filled	20%	87%	50%
Totals			
Established posts	2408	1245	176
Posts filled	612	1058	93
% Posts filled	25%	85%	53%

Table 2.14: NAIROBI PEAK PARKING DEMANDS 1972 AND 1979

	1972		1979	
	Supply	Demand	Supply	Demand
On-Street Spaces				
Parking Meters	2,540	2,260	2,601	2,551
Un-metered	4,633	4,445	4,663	4,312
Illegal		1,235		2,331
Sub-total	7,203	7,940	7,264	9,194
Off-Street Spaces				
City Commission	3,288	2,272	2,305	1,979
Private a/	721	535	721	535
P.N.R. b/	3,279	2,905	4,988	4,234
Informal c/		3,133		1,241
Sub-total	7,288	8,845	8,014	7,989
Total	14,491	16,785	15,278	17,182

a/ The demand for private parking was not recorded separately in 1972. The 1979 figures have therefore been assumed.
b/ Private Non Residential Parking
c/ Spare plots of land used for informal parking

Source: Nairobi Urban Transport Project

Table 2.15: PUBLIC OFF-STREET PARKING SPACES 1972 - 1987

Year	Number of Car Parks	Number of Spaces	Per cent Decrease
1972	19	3,444	
1975	18	3,434	0.3%
1979	17	2,400	30.1%
1983	14	1,990	17.1%
1984	13	1,590	20.1%
1986	13	1,540	3.1%
1987	12	1,316	14.6%

Average decrease per year = 142 spaces

Source: Nairobi City Commission

Table 2.16: NAIROBI PARKING METER TICKETS AND REVENUE

Parking Tickets

	Tickets Paid	Withdrawn Tickets	Tickets Unpaid	Total Tickets
1983	44,927	2,240	69,759	116,926
1984	29,546	1,082	48,185	78,813
1985	24,086	1,767	47,054	72,907
1986	21,863	1,865	41,871	65,599
1987	38,233	3,089	79,077	120,399

Revenues (Ksh)

Year	Revenue Tickets Paid	Revenue Vehicles Towed	Revenue Meters	Total Revenue
1983	2,534,790	14,810	3,070,400	5,620,000
1984	1,665,711	16,420	2,817,869	4,500,000
1985	1,333,320	26,480	2,268,680	3,628,480
1986	1,225,520	4,820	3,801,180	5,031,520
1987	2,151,810	91,026	3,057,164	5,300,000

Source: Nairobi City Commission

Table 2.17: NUMBER OF TRAFFIC ACCIDENTS, VEHICLES AND CASUALTIES IN KENYA (1963-87)

Year	Accidents	Deaths	Injuries			Total Vehicles
			Serious	Slight	Total	
1963	3578	548	1176	3060	4236	92000
1964	3693	521	1305	3076	4381	94500
1965	3562	552	1266	2880	4146	100000
1966	3847	559	1361	3205	4566	103000
1967	4387	596	1621	3728	5349	128000
1968	4511	670	1472	3457	4929	137000
1969	4196	750	1605	3927	5532	143000
1970	5163	944	2204	4600	6812	149000
1971	6042	1046	2439	5070	7509	155000
1972	6613	1331	3062	6135	9197	160000
1973	6789	1402	3386	6209	9595	164000
1974	6250	1353	3268	5177	8445	184000
1975	6534	1338	3106	5177	8283	200000
1976	5648	1640	3924	6345	10269	203000
1977	5949	1560	3534	5483	9017	214000
1978	6956	1588	4269	6587	10856	225000
1979	8049	1661	5083	8096	13179	232000
1980	6162	1413	3459	5441	8900	240000
1981	7250	1720	4208	6959	11167	246000
1982	7524	1462	4978	7400	12378	249000
1983	8023	1515	5017	8509	13526	251000
1984	8229	1490	4856	8220	13076	266000
1985	8474	1800	5113	9470	13583	280000
1986	9066	1832	5701	9676	15377	280000
1987	9783	1889	6385	10540	16925	296000

Source: National Road Safety Council

Table 2.18: ROAD CASUALTIES PER ACCIDENT AND SEVERITY INDEX (1963-87)

Year	Accidents	Casualties (fatalities & injuries)	Injuries per accident Serious injuries	Slight injuries	Casualties per accident	Severity Index a/
1963	3578	4784	0.33	0.86	1.34	11.45
1964	3693	4902	0.35	0.88	1.33	10.68
1965	3562	4698	0.36	0.81	1.32	11.75
1966	3847	5125	0.35	0.83	1.33	10.91
1967	4387	5945	0.37	0.85	1.36	10.03
1968	4511	5599	0.33	0.77	1.24	11.97
1969	4196	6282	0.38	0.94	1.50	11.94
1970	5183	7756	0.43	0.89	1.50	11.17
1971	6042	8555	0.40	0.84	1.42	12.28
1972	6613	10528	0.46	0.93	1.59	12.64
1973	6789	10997	0.50	0.91	1.62	12.75
1974	6250	9798	0.52	0.83	1.57	13.81
1975	6534	9621	0.48	0.79	1.47	13.91
1976	5848	11909	0.69	1.12	2.11	13.77
1977	5949	10577	0.59	0.92	1.78	14.75
1978	6956	12444	0.61	0.95	1.79	12.76
1979	8049	14840	0.63	1.00	1.84	11.19
1980	6162	10313	0.58	0.88	1.67	13.70
1981	7250	12887	0.58	0.96	1.78	13.35
1982	7524	13840	0.66	0.98	1.84	10.56
1983	8023	15041	0.63	1.06	1.87	10.07
1984	8229	14566	0.59	1.00	1.77	11.28
1985	8474	15383	0.60	1.00	1.82	10.70
1986	9066	17209	0.63	1.07	1.90	10.65
1987	9783	18814	0.65	1.08	1.92	10.04

a/ Ratio of Deaths:Deaths plus Injuries

Source: National Road Safety Council

Table 2.19: BASIC ROAD SAFETY INDICATORS FOR KENYA IN 1987

Basic Indicator	Value
Fatal and injury accidents	9,783
Fatalities	1,889
Serious injuries	6,385
Slight injuries	10,540
Casualties per accident	1.92
Accidents per 1,000 motor vehicles	30.6
Fatalities per 10,000 motor vehicles	59

Source: Road Traffic Accidents in Kenya 1980 - 1987, Ministry of Public Works 1989.

Table 2.20: COMPARISON OF FATALITY RATES IN SELECTED CITIES

City	Year	Deaths	Registered vehicles (thousands)	Deaths/1000 vehicles
Developing Cities				
Addis Ababa	1982	135	33	41
Amman	1980	180	40	45
Bangkok	1983	849	822	10
Bombay	1980	733	239	31
Delhi	1980	663	258	26
Hong Kong	1983	322	328	10
Karachi	1980	666	250	27
Nairobi	1984	281	125	23
Salvador	1982	494	192	26
Seoul	1982	1091	254	43
Industrialized Cities				
Greater London	1982	553	2449	2.2
Tokyo	1980	392	2860	1.4
Detroit	1982	97	646	1.5
New York	1982	555	2520	2.2

Source:

Table 2.21: COMPARISON OF PEDESTRIANS AND CYCLIST CASUALTIES IN SELECTED CITIES

City	Year	Pedestrians	Cyclists	Drivers/ m/cyclists	Passengers	Total
Addis Ababa	1982	80%	<.....20%.....>			100%
Amman	1981	66%	<.....34%.....>			100%
Bombay	1979	68%	5%	<....27%....>		100%
Colombo	1980	58%	<.....42%.....>			100%
Delhi	1983	36%	11%	19%	31%	100%
Hong Kong	1983	36%	3%	<.....61%....>		100%
Karachi	1981	44%	<.... ....56%.....>			100%
Nairobi *	1987	65%	<.....35%.....>			100%
Mombasa	1988	54%	7%	12%	27%	100%
Urban areas in Great Britain	1982	24%	10%	<.....66%....>		100%

a/ Expressed as per cent of total casualties in that city.

Source: Review of Road Safety in Kenya, January 1989, Alan Ross.

Table 3.1: CENTRAL GOVERNMENT REVENUE FROM ROAD TRANSPORT
(K£ millions)

	FY84	FY85	FY86	FY87	Proportion FY87
Road Transport Revenues a/					
Licences	9.0	9.3	12.3	18.0	7%
Fuel taxes	64.1	78.1	85.0	148.0	75%
Vehicle Import duties	20.2	21.7	37.0	38.0 b/	19%
Total	93.3	109.1	134.3	197.0	100%
National Revenues	924.9	1026.7	1214.6	1481.0	
Memorandum Items:					
Road Transport Revenue as a proportion of National Revenue	10.1%	10.6%	11.[illegible]	13.3%	
National Revenues Annual increase		11.0%	18.3%	21.9%	
Road Transport Revenues Annual increase		16.9%	23.2%	46.6%	
Annual increase c/		8.5%	10.0%	35.8%	

a/ Based on calendar year.
b/ Estimate.
c/ FY88 constant prices
Sources: Central Bureau of Statistics and Government of Kenya

Table 3.2: SALES TAX RATES ON VEHICLES

		FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88	FY89
Passenger Cars	cc Rating									
Not exceeding	1200	25%	25%	25%	30%	70%	40%	40%	30%	25%
Up to	1500	25%	25%	25%	30%	80%	50%	50%	40%	30%
Up to	1750	25%	25%	25%	35%	90%	65%	65%	55%	45%
Up to	2000	25%	25%	25%	55%	140%	90%	90%	75%	60%
Up to	2250	25%	25%	25%	70%	190%	230%	230%	195%	155%
Exceeding	2250	25%	25%	25%	85%	240%	400%	400%	340%	270%
Buses	cc Rating									
Not exceeding	1200	25%	25%	25%	35%	35%	35%	35%	35%	35%
Up to	1500	25%	25%	25%	30%	30%	30%	30%	30%	30%
Up to	1750	25%	25%	25%	35%	35%	35%	35%	35%	35%
Up to	2000	25%	25%	25%	55%	55%	55%	55%	55%	55%
Up to	2250	25%	25%	25%	70%	70%	70%	70%	70%	70%
Exceeding	2250	25%	25%	25%	85%	85%	85%	85%	85%	85%

Notes:
1) From 1984 all vehicles for local assembly taxed at 30% and buses with capacity of more than 14 passengers taxed at general rate which was 15% upto June 1988 - subsequently raised to 17%.
2) Goods vehicles taxed at general rate of 30%.

Source: Government of Kenya

Table 3.3: WHOLESALE AND RETAIL PRICES FOR PETROLEUM PRODUCTS

	April 1984	June 1986	April 1987	June 1987	Increase 1986-87
Wholesale (Ksh/ton)					
Premium Gasoline	10,869	9,375	10,868	11,418	14.5%
Regular Gasoline	10,512	9,734	10,622	11,051	13.5%
Light Diesel Oil	6,365	5,525	5,886	5,886	6.5%
Retail (Ksh/liter)					
Premium Gasohol	8.61	8.02	8.61	9.01	12.3%
Regular Gasohol	8.13	7.64	8.13	8.48	10.3%
Gas oil	5.94	5.30	5,62	6.00	6.0%

Source: Government of Kenya

Table 3.4: CENTRAL GOVERNMENT REVENUE FROM TRANSPORT FUEL (K£'000s)

	FY84	FY85	FY86	FY87
Revenue from Sale Taxes	54,752	57,504	62,694	122,536
Sales tax on Gasoline	31,856	33,105	36,479	62,402
Sales tax on Light diesel fuel	22,895	24,400	26,215	60,134
Revenue from Import Duties	9,355	20,520	22,215	25,491
Import duties on Gasoline	9,355	9,775	10,771	11,746
Import duties on Light diesel	0	10,745	11,544	13,745
Total Revenue from Transport Fuel	64,106	78,024	85,009	148,026
Memorandum Items:				
Annual increase		21.7%	9.0%	74.1%
Annual increase a/		9.1%	-0.1%	57.3%

a/ FY88 constant prices

Source: Government of Kenya

Table 3.5: CENTRAL GOVERNMENT REVENUES FROM VEHICLE AND DRIVER LICENSES (K£'000s)

	FY84	FY85	FY86	FY87
Road Vehicle Licenses	7,273	7,679	10,222	10,742
Driver's Licenses	1,173	1,261	1,445	1,756
Total Revenue	8,446	8,940	11,667	12,498
Memorandum Items				
Annual increase		5.8%	30.5%	7.1%
Annual increase a/		-5.1%	19.6%	-3.2%

a/ FY88 constant prices
Source: Government of Kenya

Table 3.6: CENTRAL GOVERNMENT EXPENDITURE ON ROADS (K£'000s)

	FY84	FY85	FY86	FY87
Recurrent expenditure	19,200	10,386	11,178	9,828
Development expenditure	43,710	43,285	38,624	40,786
Total	62,910	53,671	49,802	50,614
Memorandum items:				
Recurrent Proportion	31%	19%	22%	19%
Total expenditure				
Annual increase		-15%	-7%	2%
Annual increase a/		-24%	-15%	-8%

a/ FY88 prices

Source: Appropriation Accounts

Table 3.7: CENTRAL GOVERNMENT RECURRENT EXPENDITURE ON URBAN ROADS (K£'000s)

	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87
Municipal grants	149	144	236	51	327	1	0	195
Total expenditures	14,411	17,159	19,038	15,020	19,200	10,386	11,178	9,828
Memorandum items:								
Total expenditure:								
Annual increase		19%	11%	-21%	28%	-46%	8%	-12%
Annual increase a/		9%	1%	-28%	15%	-51%	-2%	-19%
Municipalities share	1.0%	0.8%	1.2%	0.3%	1.7%	0.0%	0.0%	2.0%

a/ FY88 constant prices
Source : Appropriation Accounts

Table 3.8: NAIROBI CITY COMMISSION GENERAL RATE FUND - REVENUE ACCOUNT
(K£'000s)

	Actuals				a/	Estimates		Projections		
	FY81	FY82	FY83	FY84	FY86	FY87	FY88	FY89	FY90	FY91
INCOME										
Rates	10594	16629	16346	16138	24497	16798	24000	24000	24000	29390
Government Grants	5578	5460	4661	3934	2258	0	0	0	0	0
Fees and Misc.	3914	4563	4711	5236	7954	5495	5354	6274	7477	6556
Services Charge								3375	11250	11250
Total	20086	26652	25718	25308	34709	22288	29354	33649	42727	47196
EXPENDITURE										
Administration	1923	2683	2243	2095	3686	2659	3645	4482	4998	4464
General Charges	365	384	270	326	362	231	290	299	289	355
Education	5567	6440	6269	6841	7174	8948	8658	4773	4805	4480
Public Health	7664	8269	7734	7676	11903	9458	11685	12445	12145	14309
Public Wks-Trspt b/	3152	3011	3060	3278	5164	4021	5655	6365	6224	13850
Public Wks-Other	796	653	578	872	1364	1156	833	1290	1158	1020
Soc.Ser.,Housing. Misc.	2657	3406	3587	2047	3263	2711	3504	3954	3983	4291
Total	22124	24846	23741	23135	32916	24184	29270	33608	33602	42768
Earlier Year Adjustments	-1420	-3611	-2269	178	3279	-1301	-3179	-1619	-1717	7408
SURPLUS/DEFICIT	-3458	-1805	-292	2351	5072	-3197	-3095	-1578	7408	11836

a/ 1985/86 fiscal year changed from calendar year to ending June 30; 18 months shown.

b/ Public Works - Transport includes: Car Parks; Parking Meters; Unadopted Street Works Road Reconstruction and Improvements; Maintenance of Trunk and Secondary Roads; Traffic Engineering and Signals; Road Reinstatements; General Charges Roads; Street Lighting; Maintenance of Other Roads; Maintenance of Road Reserves.

Source: Muncipal Accounts

Table 3.9: MOMBASA CITY COUNCIL GENERAL RATE FUND - REVENUE ACCOUNT
(K£ '000s)

	Actuals					Estimates		Projections		
	FY81	FY82	FY83	FY84	FY86	FY87	FY88	FY89	FY90	FY91
INCOME										
Rates	2609	2609	2850	2850	4275	2850	2850	2850	2850	3490
Government Grants	199	185	0	0	0	0	0	0	0	0
Fees and Misc.	3349	3775	3869	3755	4010	1992	2016	3259	3261	2469
Services Charge								2250	7500	7500
Total	6157	6569	6719	6605	8285	4842	4866	8359	13611	13459
EXPENDITURE										
Administration	257	393	384	434	847	544	706	735	742	865
General Charges	0	0	0	0	0	0	0	0	0	0
Education	1695	1986	2600	2792	2922	1280	1342	1466	1511	1643
Public Health	1658	1824	1983	1978	3664	3162	2864	3845	4428	3507
Public Wks-Trspt b/	719	1010	1353	982	1698	1108	1252	1481	1511	1533
Public Wks-Other	844	1062	797	1187	1691	1126	1340	1603	1684	1641
Soc.Ser.,Housing. Misc. c/	743	944	1032	1082	1769	1208	1543	1631	1653	1890
Total	5906	7218	8149	8455	12591	8428	9047	10761	11529	11079
Earlier Year Adjustments	5993	6244	5595	4165	2315	-1991	-5577	-9758	-12160	-10078
SURPLUS/DEFICIT	6244	5595	4165	2315	-1991	-5577	-9758	-12160	-10078	-7698

a/ FY86 fiscal year changed from calendar year to ending June 30; 18 months shown.
b/ Public Works - Transport includes: Engineering Administration; Street Lighting; Traffic Signals; Trunk Roads; Roads and Bridges; Hot Premix Plant; Mechanical Workshop; Drainage.
c/ Misc. includes Market.

Source: Muncipal Accounts

Table 8.10: KISUMU CITY COUNCIL GENERAL RATE FUND - REVENUE ACCOUNT
(K£ '000s)

	Actuals					Estimates		Projections		
	FY81	FY82	FY83	FY84	FY86	FY87	FY88	FY89	FY90	FY91
INCOME										
Rates	144	248	400	469	1060	760	926	926	1070	1134
Government Grants	67	67	0	0	0	0	0	0	0	0
Fees and Misc.	852	964	1315	1359	1302	510	715	1224	826	876
Services Charge								720	2400	2400
Total	1063	1279	1715	1828	2362	1270	1641	2870	4296	4410
EXPENDITURE										
Administration)	336	262	318	196	549	399	516	822	596	632
General Charges)										
Education	318	728	790	649	1512	359	412	397	476	505
Public Health	535	552	353	253	915	926	999	1365	1154	1223
Public Wks-Trspt	203	253	102	93	222	522	134	220	155	164
Public Wks-Other	179	81	177	102	209	220	267	333	308	327
Soc.Ser.,Housing.	400	456	270	191	821	444	468	604	541	573
Misc.										
Total	1971	2332	2010	1484	4228	2870	2796	3741	3230	3424
SURPLUS/DEFICIT	-908	-1053	-295	344	-1866	-1600	-1155	-871	1066	996

Note: FY85/86 fiscal year changed from calendar year to ending June 30; 18 mths shown.
Public Works - Transport includes: Bus Treminal; Street Lights; Drains;
Trunk Roads; Local Roads; General Labor Unit; Municipal Garage.
Roadworks Admin. has been included, but none of General Admin. of the Engineer.

Table 8.11: NAIROBI INCOME AND EXPENDITURE RELATING TO PUBLIC WORKS - TRANSPORT
(K£ '000s)

	FY81	FY82	FY83	FY84	FY85	FY87	FY88	FY89	FY90	FY91	
INCOME											
Fees and Charges											
Car Parks	81	79	71	67	95	59	76	110	132	93	
Parking Meters	309	279	281	225	272	161	265	315	356	325	
Other Fees	49	43	102	76	26	25	129	132	137	158	
Grants, Rents etc.											
Govt.Contribution	140	129	0	380	144	0	0	0	0	0	
Other Income	0	2	14	1	4	0	0	0	0	0	
Total Income	579	532	468	749	543	245	470	557	625	576	
EXPENDITURE											
A. Employees Expenses											
Car Parks	34	41	39	37	58	56	51	51	54	125	
Parking Meters	27	24	22	20	33	25	31	40	42	76	
Street Lighting	95	105	65	76	117	25	90	102	105	220	
Traffic Eng.,Sigs.	39	30	19	34	38	33	34	35	36	83	
Trunk Roads	148	131								0	
Local Roads	501	506	592	550	764	628	615	664	690	1,506	
Other Transport	0	.	0	0	3	0	0	0	0	0	
B. Running Expenses											
Car Parks	23	18	13	24	36	29	31	32	32	76	
Parking Meters	65	69	74	54	86	248	684	850	866	1,675	
Street Lighting	458	476	400	456	648	420	793	800	812	1,942	
Traffic Eng.,Sigs.	111	29	77	77	228	111	254	255	268	622	
Trunk Roads	492	442								0	
Local Roads	558	484	979	1083	1448	1373	1474	2063	1958	3,610	
Other Transport	0	0	0	0	0	0	0	0	0	0	
Sub-Total of Transport Expenditure on Employees and Running Expenses (A + B)											
Car Parks	57	59	52	61	94	79	82	83	86	100	
Parking Meters	92	93	96	74	119	273	715	890	908	876	
Street Lighting	553	581	465	532	765	445	883	902	917	1,081	
Traffic Eng.,Sigs.	150	59	96	111	266	144	288	290	304	353	
Trunk Roads	640	573	0	0	0	0	0	0	0	0	
Local Roads	1059	992	1571	1633	2212	2001	2089	2727	2648	2,558	
Other Transport	0	0	0	0	0	0	0	0	0	0	
C. Debt Charges											
Car Parks	9	5	5	4	9	6	6	6	6	15	
Parking Meters	4	0	0	0	0	0	0	0	0	0	
Street Lighting	22	11	4	22	8	21	22	22	22	54	
Traffic Eng.,Sigs.	31	31	26	15	0	0	0	0	0	0	
Trunk Roads	0	0								0	
Local Roads	194	217	346	353	936	729	914	914	914	2,239	
Other Transport	0	0	0	0	0	0	0	0	0	0	
D. General Charges - Roads											0
Premises	10	7	32	74	10	4	74	103	103	181	
Establishment	331	383	367	397	750	539	582	428	318	1,425	
Total of Recurrent Expenditure on Transport (A + B + C + D)											
Car Parks	66	64	57	65	103	85	88	89	92	216	
Parking Meters	96	93	96	74	119	273	715	890	908	1751	
Street Lighting	575	592	469	554	768	466	905	924	939	2216	
Traffic Eng.,Sigs.	181	90	122	126	266	144	288	290	304	705	
Trunk Roads	640	573	0	0	0	0	0	0	0	0	
Local Roads	1253	1209	1917	1986	3148	2730	3003	3641	3560	7355	
Other Transport	0	0	0	0	0	0	0	0	0	0	
Gen.Charges-Roads	341	390	399	473	760	543	656	531	421	1607	
Total Transport Expenditure	3152	3011	3060	3278	5164	4021	5655	6365	6224	13850	

Source: Municipal Accounts

Table 3.12: MOMBASA INCOME AND EXPENDITURE RELATING TO PUBLIC WORKS - TRANSPORT
(K£ '000s)

	FY81	FY82	FY83	FY84	FY85	FY87	FY88	FY89	FY90	FY91	
INCOME											
Fees and Charges											
Car Parks	0	0	0	0	0	0	0	0	0	0	
Parking Meters	32	32	32	32	48	32	32	33	33	39	
Other Fees	0	0	0	0	0	0	0	0	0	0	
Grants, Rents etc.											
Govt.Contribution	37	37	37	33	132	104	116	116	116	142	
Other Income	0	0	0	0	0	0	0	0	0	0	
Total Income	69	69	69	65	180	136	148	149	149	181	
EXPENDITURE											
A. Employees Expenses											
Car Parks	0	0	0	0	0	0	0	0	0	0	
Parking Meters	0	0	0	0	0	0	0	0	0	0	
Street Lighting	0	0	0	0	0	0	0	0	0	0	
Traffic Eng.,Sigs.	0	0	0	0	0	0	0	0	0	0	
Trunk Roads	0	0	0	0	0	0	0	0	0	0	
Local Roads	294	365	381	392	677	398	520	668	706	637	
Other Transport	0	0	0	0	0	0	0	0	0	0	
B. Running Expenses											
Car Parks	0	0	0	0	0	0	0	0	0	0	
Parking Meters(1)											
Street Lighting	72	150	150	164	246	164	164	170	170	201	
Traffic Eng.,Sigs.					36	18	30	33	33	37	
Trunk Roads	36	37	36	38	109	85	85	93	93	104	
Local Roads	161	276	602	207	343	244	244	277	264	299	
Other Transport	0	0	0	0	0	0	0	0	0	0	
Sub-Total of Transport Expenditure on Employees and Running Expenses (A + B)											
Car Parks	0	0	0	0	0	0	0	0	0	0	
Parking Meters	0	0	0	0	0	0	0	0	0	0	
Street Lighting	72	150	150	164	246	164	164	170	170	201	
Traffic Eng.,Sigs.	0	0	0	0	36	18	30	33	33	37	
Trunk Roads	36	37	36	38	109	85	85	93	93	104	
Local Roads	455	641	983	599	1020	642	764	945	970	936	
Other Transport	0	0	0	0	0	0	0	0	0	0	
C. Debt Charges											
Car Parks	0	0	0	0	0	0	0	0	0	0	
Parking Meters	0	0	0	0	0	0	0	0	0	0	
Street Lighting	0	4	5	2	5	5	5	5	5	6	
Traffic Eng.,Sigs.	0	0	0	0	0	0	0	0	0	0	
Trunk Roads	0	0	1	1	2	1	1	1	1	1	
Local Roads	105	121	121	121	182	131	131	142	142	160	
Other Transport	0	0	0	0	0	0	0	0	0	0	
D. General Charges - Roads											
Premises	9	9	11	9	15	10	11	12	12	13	
Establishment	42	48	46	48	83	52	61	80	85	75	
Total of Recurrent Expenditure on Transport (A + B + C + D)											
Car Parks	0	0	0	0	0	0	0	0	0	0	
Parking Meters a/	0	0	0	0	0	0	0	0	0	0	
Street Lighting	72	154	155	166	251	169	169	175	175	207	
Traffic Eng.,Sigs.	0	0	0	0	36	18	30	33	33	37	
Trunk Roads	36	37	37	39	111	86	86	94	94	105	
Local Roads	560	762	1104	720	1202	773	895	1087	1112	1095	
Other Transport	0	0	0	0	0	0	0	0	0	0	
Gen.Charges-Roads	51	57	57	57	98	62	72	92	97	88	
Total Transport Expenditure	719	1010	1353	982	1698	1108	1252	1481	1511	1533	

a/ Parking meter costs under local roads

Source: Municipal Accounts

Table 9.13: KISUMU INCOME AND EXPENDITURE RELATING TO PUBLIC WORKS - TRANSPORT
(KE '000s)

	FY81	FY82	FY83	FY84	FY85	FY87	FY88	FY89	FY90	FY91
INCOME										
Fees and Charges										
Car Parks										
Parking Meters										
Other Fees	0	29	33	69	70	75	76	80	88	93
Grants, Rents etc.										
Govt.Contributio										
Other Income				8		8	8	10	9	10
Total Income	0	29	33	77	70	83	84	90	97	103
EXPENDITURE										
A. Employees Expenses										
Bus Terminal										
Parking Meters										
Street Lighting										
Traffic Eng.,Sigs.										
Trunk Roads										
Local Roads										
General Labor Unit	63	70								
B. Running Expenses										
Bus Terminal	6	14	0	0	2	11	4	9	5	5
Parking Meters										
Street Lighting	18	38	38	36	60	38	30	48	35	37
Traffic Eng.,Sigs.										
Trunk Roads	7	0	0	0	1	0	2	2	2	2
Local Roads	84	74	58	39	43	424	40	66	46	49
Other Transport										
Sub-Total of Transport Expenditure on Employees and Running Expenses (A + B)										
Bus Terminal	6	14	0	0	2	11	4	9	5	5
Parking Meters	0	0	0	0	0	0	0	0	0	0
Street Lighting	18	38	38	36	60	38	30	48	35	37
Traffic Eng.,Sigs.	0	0	0	0	0	0	0	0	0	0
Trunk Roads	7	0	0	0	1	0	2	2	2	2
Local Roads	84	74	58	39	43	424	40	66	46	49
General Labor Unit	63	70	0	0	0	0	0	0	0	0
C. Debt Charges										
Bus Terminal										
Parking Meters										
Street Lighting	16	0	0	1	0	1	1	1	1	1
Traffic Eng.,Sigs.										
Trunk Roads										
Local Roads	0	0	1	2	37	2	2	24	2	2
Other Transport										
D. Roads Administration										
Running Costs	4	0	0	0	4	4	4	6	5	5
Establishment	5	57	7	16	55	42	51	64	59	62
Total of Recurrent Expenditure on Transport (A + B + C + D)										
Bus Terminal	6	14	0	0	2	11	4	9	5	5
Parking Meters	0	0	0	0	0	0	0	0	0	0
Street Lighting	34	38	38	37	60	39	31	49	36	38
Traffic Eng.,Sigs.	0	0	0	0	0	0	0	0	0	0
Trunk Roads	7	0	0	0	1	0	2	2	2	2
Local Roads	84	74	57	41	80	428	42	90	49	51
Other Transport	63	70	0	0	0	0	0	0	0	0
Roads Admin.	9	57	7	15	59	46	55	70	0	67
Total Transport Expenditure	203	253	102	93	222	522	134	220	91	164

Source: Municipal Accounts

Table 8.14: NAIROBI CITY COMMISSION GENERAL RATE FUND - BALANCE SHEET
(K£ '000s)

	Actuals FY81	FY82	FY83	FY84	FY86	Estimates FY87
ASSETS						
Fixed Assets						
Capital Outlay						
- Previously	37838	41027	43778	44942	47594	52744
- Within Year	3189	2752	1163	2652	6960	2879
KBS Shareholding	138	138	138	138	138	138
Others	1	0	0	0	0	0
Current Assets						
Stores	1925	1789	1853	1936	1744	1834
Works in Progress	244	51	107	177	299	269
Debtors	9713	16457	20528	25478	37145	40369
Investments, Cash	640	574	571	947	669	845
Other Balances	5219	2553	296	0	0	0
Total	58907	65341	68434	76270	94553	99078
LIABILITIES						
Loans Outstanding	19642	20556	19532	23133	27710	28968
Current Liabilities						
Creditors	10388	12705	2005	6206	4999	672
Deposits	3085	4900	7306	3513	8996	12523
Advance Receipts	417	487	593	960	1299	1240
Cash Overdrawn	1514	1244	94	0	487	0
Provisions for Funds	2773	2646	2646	2769	2726	2759
Other Balances	21088	22803	36258	39589	48336	46859
Total	58907	65341	68434	76270	94553	99078

a/ FY85/86 fiscal year changed from calendar year to year ending June 30.
Balance Sheets are available to 1986/87 and show position at fiscal year end.

Source: Municipal Accounts

Table 8.16: RECURRENT EXPENDITURE AND REVENUE FOR A SELECTION OF MUNICIPALITIES a/ ,Y87 (K£ '000s)

City	REVENUES Road Revenue	Total Revenue	Road Revenue as % of Total	Road Revenue P/inhab.	EXPENDITURES Road Expend.	Total Expend.	Road Expend. as % of Total	Road Expend. P/inhab.
NAIROBI	245	22,288	1%	0.20	4,021	24,184	17%	3.21
MOMBASA	32	5,535	1%	0.07	481	9,742	5%	1.10
KISUMU	75	13,642	1%	0.33	475	4,538	10%	2.12
Subtotal	352	41,465	3%	0.18	4,977	38,464	13%	2.60
BUNGOMA	27	225	12%	0.62	22	252	9%	0.52
ELDORET	46	606	8%	0.51	100	735	14%	1.1
EMBU	21	499	4%	0.77	35	571	6%	1.27
KAKAMEGA	14	312	5%	0.26	12	307	4%	0.23
KERICHO	21	530	4%	0.42	81	540	15%	1.63
KIAMBU	0	304	0%	0.06	16	359	4%	2.56
KISII	13	406	3%	0.27	73	452	16%	1.48
KITALE	21	966	2%	0.39	32	776	4%	0.61
MACHAKOS	37	245	15%	0.26	16	291	6%	0.11
MERU	4	352	1%	0.03	4	432	1%	0.03
MURANGA	17	183	9%	0.66	4	194	2%	0.16
NAKURU	0	3,025	0%	0.00	124	2,857	4%	0.73
NANYUKI	0	861	0%	0.00	59	736	8%	1.66
NYAHURURU	2	776	0%	0.08	44	537	8%	2.34
THIKA	0	1,374	0%	0.00	35	1,098	3%	0.49
Subtotal	223	10,664	2%	0.23	657	10,137	6%	0.69
Grand Total	575	52,129	1%	0.20	5,634	48,601	12%	1.96

a/ Total and recurrent transport related revenues and expenditures.

Source: Municipal Accounts

Table 3.16: RECURRENT REVENUES AND EXPENDITURES IN NAIROBI, MOMBASA AND KISUMU
(K£ millions)

	1981	1982	1983	1984	1985/86	1986/87
INCOME						
Nairobi	20.09	26.65	25.72	25.31	23.19	22.29
Mombasa	6.12	6.57	6.72	6.61	5.61	4.87
Kisumu	1.06	1.23	1.72	1.83	1.60	1.27
Total	27.27	34.45	34.16	33.75	30.40	28.43
EXPENDITURE						
Nairobi	20.70	21.24	21.47	23.31	24.50	22.88
Mombasa	11.90	13.46	13.74	12.62	10.09	6.44
Kisumu	1.91	2.33	2.01	1.48	2.87	2.80
Total	34.51	37.03	37.22	37.41	37.46	32.12
SURPLUS/DEFICIT						
Nairobi	-0.61	5.41	4.25	2.00	-1.31	-0.59
Mombasa	-5.78	-6.89	-7.02	-6.01	-4.48	-1.57
Kisumu	-0.85	-1.10	-0.29	0.35	-1.27	-1.53
Total	-7.24	-2.58	-3.06	-3.66	-7.08	-3.69

Source: Municipal Accounts

Table 3.17: IMPACT OF NEW GPT TAX ON MUNICIPAL ACCOUNTS FY90
(K£ millions)

	Nairobi	Mombasa	Kisumu
(A) Accumulated deficits, before Services Charge.	3.8	17.7	1.2 a/
(B) Services Charge. a/	11.3	7.5	2.4
(C) Potential Contribution to Expenditure (B-A).	7.4	-10.1	1.2
(D) Total Expenditure, before Services Charge.	33.6	11.5	4.0 a/
(E) Per cent Addition to Expenditure (C/D).	22%	nil	30%

a/ Mission estimates.

Source: Municipal Accounts

Table 3.18: NAIROBI CITY COMMISSION EXPENDITURE PER CAPITA
(K£in FY88 prices)

	FY81	FY82	FY83	FY84	FY86	FY87
Recurrent Expenditure						
Total	39,274	39,828	35,178	30,200	26,569	26,106
Transport	4,990	4,201	3,942	3,662	3,555	3,754
Capital Expenditure						
Total	5,661	4,441	1,723	3,462	5,618	3,108
Transport	891	704	41	570	2,506a/	1,454a/
Total Expenditure						
Total	44,935	44,240	36,896	33,662	32,188	29,213
Transport	5,881	4,905	3,984	4,232	6,060	5,208
Expenditure per Capita						
Total	47.3	44.6	35.9	31.9	29.1	24.7
Transport	6.2	4.9	3.9	4.0	5.5	4.4

a/ World Bank loan used for road construction

Source: Municipal Accounts

Table 3.19: RECURRENT TRANSPORT EXPENDITURES PER CAPITA - NAIROBI, MOMBASA AND KISUMU
(K£ in FY88 prices)

	FY81	FY82	FY83	FY84	FY86	FY87
Nairobi	5.26	4.28	3.88	3.47	3.21	3.17
Mombasa	3.23	4.02	4.89	2.97	3.08	2.60
Kisumu	2.25	1.93	0.82	0.56	0.68	2.30

Source: Municipal Accounts

Table 3.20: LABOUR AND RUNNING COSTS FOR RECURRENT EXPENDITURES - NAIROBI AND MOMBASA
(K£ millions)

	FY81	FY82	FY83	FY84	FY86	FY87
NAIROBI						
A. Employee Expenses	1.18	1.22	1.10	1.12	1.17	1.80
B. Running Expenses	1.71	1.52	1.54	1.69	1.68	2.18
Ratio A:B	40.8%	44.6%	41.7%	39.7%	41.8%	37.3%
MOMBASA						
A. Employee Expenses	0.34	0.41	0.48	0.44	0.51	0.45
B. Running Expenses	0.27	0.46	0.79	0.41	0.49	0.51
Ratio A:B	55.5%	47.1%	35.1%	51.8%	50.9%	46.8%

Source: Municipal Records

Table 8.21: CENTRAL GOVERNMENT ROAD TRANSPORT REVENUES AND EXPENDITURES
(K£'000s)

	FY84	FY85	FY86	FY87
Road expenditure	62,910	58,671	49,802	50,614
Transport revenues a/	126,534	187,280	150,887	204,861
Ratio of expenditure to revenue	50%	39%	33%	25%

a/ Revenues include a proportion of income from consumption of gas-oil used by railways and agricultural vehicles.

Source: Appropriation Accounts

Table 8.22: URBAN TRANSPORT RECURRENT REVENUES AND EXPENDITURES IN NAIROBI, MOMBASA AND KISUMU
(K£ millions)

	1981	1982	1983	1984	1985/86	1986/87
Urban Transport Income						
Nairobi	0.58	0.58	0.47	0.51	0.54	0.25
Mombasa	0.07	0.07	0.07	0.07	0.12	0.14
Kisumu	0.00	0.03	0.03	0.08	0.07	0.08
Total	0.65	0.68	0.57	0.66	0.73	0.47
Urban Transport Expenditure						
Nairobi	3.15	3.01	3.06	3.28	3.50	4.02
Mombasa	0.72	1.01	1.35	0.98	1.15	1.11
Kisumu	0.20	0.25	0.10	0.90	0.15	0.52
Total	4.07	4.27	4.51	4.35	4.80	5.65
Urban Transport Surplus/Deficit						
Nairobi	-2.57	-2.48	-2.59	-2.77	-2.96	-3.77
Mombasa	-0.65	-0.94	-1.28	-0.91	-1.03	-0.97
Kisumu	-0.20	-0.22	-0.07	-0.01	-0.08	-0.44
Total	-3.42	-3.64	-3.94	-3.69	-4.07	-5.18
Factor a/	5.3	5.3	6.9	5.6	5.6	11.0

a/ Factor times which revenues need to be increased to cover expenditures.

Source: Muncipal Accounts

Table 5.1: KENYA URBAN TRANSPORT PROGRAM 1990/91 TO 1994/95

Cost Estimate in US$	Central Government	Nairobi	Mombasa	Kisumu	Total
Physical Works					
Road Construction	24,123,900a/	10,298,700			34,422,600
Road Widening	7,025,000b/	5,634,000			12,659,000
Road Maintenance		67,150,000	12,960,000	15,280,000	95,390,000
Public Transport	14,800,000c/		830,000	1,612,000	17,242,000
Traffic Management		4,050,000	1,187,500	640,000	5,877,500
Parking Facilities		4,500,000			4,500,000
Pedn/Cycle Facilities		4,262,500	1,402,500	583,000	6,248,000
Road Safety		1,045,000	407,500	167,000	1,619,500
Street Lighting		5,310,000	1,400,000	375,000	7,085,000
Sub-total	45,948,900	102,250,200	18,187,500	18,657,000	185,043,600
Equipment					
Road Maintenance		9,860,000	6,625,000	3,000,000	19,485,000
Traffic Management		1,971,000	168,500	168,500	2,308,000
Parking Facilities		1,276,600	81,600	159,600	1,517,800
Road Safety	1,089,450				1,089,450
Sub-total	1,089,450	13,107,600	6,875,100	3,328,100	24,400,250
Technical Assistance					
Road Maintenance		360,000	288,000	144,000	792,000
Traffic Management		360,000	288,000	144,000	792,000
Road Safety	432,000				432,000
Traffic Police Trainer	432,000				432,000
University Training	360,000				360,000
Sub-total	1,224,000	720,000	576,000	288,000	2,808,000
Training					
Road Maintenance		50,000	30,000	30,000	110,000
Traffic Management		50,000	30,000	30,000	110,000
Road Safety	150,000				150,000
Transport Policy	150,000				150,000
Sub-total	300,000	100,000	60,000	60,000	520,000
Studies					
o Organization and Management of NCC		200,000			200,000
o NCC Revenue Mobilization		200,000			200,000
o Parking and Traffic Restraint Options		360,000			360,000
o Traffic Management in Central Area		240,000			240,000
o Metropolitan Growth Strategy Update		900,000	600,000		1,500,000
o School Bus System	360,000				360,000
o Staggering of Work Hours	360,000				360,000
o Public Transport Policy	150,000				150,000
Sub-total	870,000	1,900,000	600,000	0	3,370,000
Total	**49,432,350**	**118,077,800**	**26,298,600**	**22,333,100**	**216,141,850**

a/ Includes Nairobi Eastern By-Pass and Intersections, Mombasa Causeway, Kisumu Ring Road.
b/ Includes in Nairobi: Langata Road, Ngong Road, Juja Road, Waiyaki Way
c/ Includes Busways in Nairobi

NAIROBI URBAN TRANSPORT PROGRAM

Table 5.2: EQUIPMENT - PARKING FACILITIES

No.	Unit	Description	Unit Cost US$	Total US$
1	item	Parking Meter Spares	400,000	400,000
1000	no.	Meters and Poles	500	500,000
12	no.	Ticket Vending Machines	10,000	120,000
2	no.	Vehicles for Mechanics	20,000	40,000
3	no.	Vehicles for Wardens	20,000	60,000
200	no.	Wheel Clamps	400	80,000
20	no.	Meter Winding Keys	80	1,600
1	item	Spares for New Meters	75,000	75,000
			Total	1,276,600

Table 5.3: EQUIPMENT - ROAD MAINTENANCE

No:	Description	Average Cost US$	Total US$
60	Vehicles, LDV's, Pickups	19,000	1,140,000
30	Tippers	50,000	1,500,000
10	Flat Trucks	40,000	400,000
8	Rollers	120,000	960,000
8	Water Tankers	60,000	480,000
4	Shovels	250,000	1,000,000
4	Graders	220,000	880,000
1	Dozer	180,000	180,000
1	Low Loader	120,000	120,000
5	Tractor Trailers	20,000	100,000
3	Compressors	40,000	120,000
6	Small Dumpers	20,000	120,000
1	Distributor	100,000	100,000
7	Tractors	50,000	350,000
3	Mobile Workshops	100,000	300,000
	Central Workshop Improvements	300,000	300,000
	Central Workshop Tools and Equipment	350,000	350,000
	Miscellaneous Small Items	660,000	660,000
	Additional Spare Parts	800,000	800,000
		Total	9,860,000

Table 5.4: EQUIPMENT - TRAFFIC SAFETY AND ENFORCEMENT
National Traffic Police + National Road Safety Council

No.	Unit	Description	Unit Cost US$	Total US$
1	no.	Micro Computer + Software	20,000	20,000
20	no.	Motor Cycles	8,000	160,000
30	no.	Patrol Cars	20,000	600,000
50	no.	Hand Held Radars	2,000	100,000
100	no.	Walkie Talkies	1,500	150,000
90	no.	Alcometers	500	45,000
50	no.	First Aid Kits	50	2,500
150	no.	Traffic Cones	30	4,500
120	no.	Collapsable Police Signs	25	3,000
30	no.	Rescue Equipment	300	9,000
750	no.	Reflective Jackets	30	22,500
5	no.	Equipment for Training School	500	2,500
3	no.	Teaching Aids	100	300
3	no.	Vehicles for Driving School	20,000	40,000
National Traffic Police			Sub Total	1,159,300
3	no.	Minibuses for Children's Safety Park	25,000	75,000
6	no.	Ambulances (fully equipped)	35,000	210,000
4	no.	Publicity/Exhibition Vehicles (equipped)	40,000	160,000
National Road Safety Council			Sub Total	445,000
			Total	1,604,300

Table 5.5: EQUIPMENT - TRAFFIC MANAGEMENT

No.	Unit	Description	Unit Cost US$	Total US$
50	sites	Traffic Signal Equipment	30,000	1,500,000
1	item	Traffic Signal Spares	150,000	150,000
20	no.	Automatic Traffic Counters	2,000	40,000
2	no.	Micro Computers + Software	10,000	20,000
2	no.	Survey Vehicles	20,000	40,000
20	no.	Tally Counters	250	5,000
3	no.	Cassette Recorders	200	600
2	no.	Radar Speed Meters	1,500	3,000
20	no.	Stop Watches	50	1,000
4	no.	Desk Calculators	100	400
1	no.	Copier	3,000	3,000
2	no.	White Line Markers	4,000	8,000
1	no.	Road Signs Workshop + Equipment	200,000	200,000
			Total	1,971,000

NAIROBI URBAN TRANSPORT PROGRAM

Table 5.6: PHYSICAL WORKS - PEDESTRIAN AND CYCLE FACILITIES

No. Unit	Description	Unit Cost US$	Total US$
25 kms	Footpaths	16,500	412,500
20 kms	Cycleways	22,000	440,000
12 kms	Pedestrian Streets	55,000	660,000
25 no	Footbridges	110,000	2,750,000
		Total	4,262,500

Table 5.7: PHYSICAL WORKS - PARKING FACILITIES

No. Unit	Description	Unit Cost US$	Total US$
8 lots	Peripheral Parking Lots	1,500,000	4,500,000
		Total	4,500,000

Table 5.8: PHYSICAL WORKS - PUBLIC TRANSPORT FACILITIES

No. Unit	Description	Unit Cost US$	Total US$
100 sites	Bus Shelters	1,100	110,000
100 sites	Bus Laybyes	4,500	450,000
3 sites	Rehabilitate Bus Terminals	55,000	165,000
25 sites	Construct Bus Terminals	55,000	1,375,000
1 site	Public Transport Interchange	1,700,000	1,700,000
12 kms	Busways in Central Area	750,000	9,000,000
4 kms	Busway Improvements on Corridors	500,000	2,000,000
		Total	14,800,000

NAIROBI URBAN TRANSPORT PROGRAM

Table 5.9: PHYSICAL WORKS - ROAD CONSTRUCTION (1)(NEW)

Description	Length (km)	Year (2)	Cost Estimate US$
Eastern By Pass	3.9	1-4	1,794,595
Eastern By Pass Junctions (6)		1-3	298,000
Lunga Lunga Road	0.9	1	515,000
Likoni Road	1.7	1	460,000
Olenguruone (2 bridges)	2.0	1	540,000
Ring Road Kilimani	1.4	2	380,000
Milimani Road	0.6	2	165,000
Peponi Road	3.5	2-3	950,000
Ring Road West (1 bridge)	0.7	2-3	460,000
Ruirwaka	1.7	2	460,000
Kibera Otiende Link	1.8	3	490,000
Muratina Road	1.5	4	405,000
Kiarie Muchai	1.1	4	300,000
Mpaka Road (1 bridge)	0.7	4	300,000
Ole Odume (1 bridge)	0.4	4	270,000
Kinshasa	0.5	4	135,000
Muslim	0.4	4	110,000
Langata Ngong Rd Link (2 bridges) Construct only bridges	3.5	4	540,000
Thika - Komorok Link (2 bridges) Construct only bridges	4.0	5	540,000
Thika - Kamiti Link	1.7	5	540,000
Ring Road City Park	1.5	5	675,000
Access Roads into Low Income Areas	6.0	1-5	1,800,000
Total	39.5		12,122,595

(1) Priorities need to be determined through feasibility studies and economic evaluation.
(2) From 1990/91 to 1994/95

NAIROBI URBAN TRANSPORT PROGRAM

Table 5.10: PHYSICAL WORKS - TRAFFIC MANAGEMENT

No.	Unit	Description	Unit Cost US$	Total US$
50	sites	Traffic Signal Intersections (1)	25,000	1,250,000
50	sites	Junction Improvements	20,000	1,000,000
5000	no.	Traffic Signs (reflectorized)	110	550,000
5000	kms	Road Markings	250	1,250,000
			Total	4,050,000

(1) Equipment costs not included

Table 5.11: PHYSICAL WORKS - ROAD MAINTENANCE

Description	Length (km)	Unit Rate US$	Total US$
Resealing	350	15,000	5,250,000
Overlay	450	30,000	13,500,000
Rehabilitation	170	160,000	27,200,000
Reconstruction in Full	80	240,000	19,200,000
Regravelling	200	10,000	2,000,000
Totals	1,250		67,150,000

Table 5.12: PHYSICAL WORKS - ROAD SAFETY MEASURES

No.	Unit	Description	Unit Cost US$	Total US$
15000	meters	Pedestrian Guard Rail	45	675,000
15000	no.	Cats Eye Studs	10	150,000
5000	no.	Reflective Marker Posts	15	75,000
50	sites	Road Bumps and Rumble Strips	1,100	55,000
30	sites	Pedestrian Phases at Signals	3,000	90,000
			Total	1,045,000

NAIROBI URBAN TRANSPORT PROGRAM

Table 5.13: PHYSICAL WORKS - ROAD WIDENING (1)

Description	Length (km)	Year (2)	Cost Estimate US$
Langata Road (2 bridges)	8.4	1-5	2,820,000
Enterprise Road	1.7	1	460,000
Ngong Road (1 bridge)	5.3	1-5	1,435,000
Likoni Road	1.8	1-2	595,000
Jogoo Road (1 bridge)	1.2	1-5	595,000
Lusaka Road (1 bridge)	1.3	1	460,000
Juja Road	4.7	2-4	1,270,000
Gitanga Road	2.3	2	190,000
Kibera Drive	3.9	2	325,000
Argwings Kodek	3	3-4	810,000
Dennis Pritt Road	2	3	165,000
Waiyaki Way	2.7	3-5	1,500,000
Forest and Museum Hill (1 bridge)	1.3	4-5	622,000
Ring Road Ngara	1.2	5	325,000
State House Avenue	1.1	5	110,000
Lenana Road	2.5	5	217,000
Lower Kabete Road (1 bridge)	0.6	5	760,000
Total	50.4		12,659,000

(1) Priorities need to be determined through feasibility studies and economic evaluation.
(2) From 1990/91 to 1994/95

Table 5.14: PHYSICAL WORKS - STREET LIGHTING

No. Unit	Description	Unit Cost US$	Total US$
1 item	Spares (bulbs etc.)	310,000	310,000
1 no.	Moving Crane	50,000	50,000
9000 no.	Rehabilitation of Lamps	550	4,950,000
		Total	5,310,000

MOMBASA URBAN TRANSPORT PROGRAM

Table 5.15: EQUIPMENT - PARKING FACILITIES

No.	Unit	Description	Unit Cost US$	Total US$
1	item	Parking Meter Spares	60,000	60,000
50	no.	Wheel Clamps	400	20,000
20	no.	Meter Winding Keys	80	1,600
			Total	81,600

Table 5.16: EQUIPMENT - ROAD MAINTENANCE

No:	Description	Average Cost US$	Total US$
5	Tippers	48,000	240,000
2	Flat Trucks	38,000	76,000
2	Rollers	115,000	230,000
1	Water Tanker	55,000	55,000
2	Graders	215,000	430,000
6	LDV's	18,000	108,000
2	Loaders	240,000	480,000
2	Tractor Trailers	18,000	36,000
1	Distributor	100,000	100,000
2	Tractors	45,000	90,000
1	Street Lighting Maint. Vehicle	50,000	50,000
1	Mobile Workshop	100,000	100,000
	Workshop Tools	30,000	30,000
	Miscellaneous Small Items	200,000	200,000
	Additional Spare Parts	300,000	300,000
	New Workshop	4,000,000	4,000,000
	Design and Lab. Equipment	100,000	100,000
		Sub Total	6,625,000
	New Workshop		4,000,000
		Total	10,625,000

MOMBASA URBAN TRANSPORT PROGRAM

Table 5.17: EQUIPMENT - TRAFFIC MANAGEMENT

No. Unit	Description	Unit Cost US$	Total US$
5 sites	Traffic Signal Equipment	30,000	150,000
1 item	Traffic Signal Spares	4,500	4,500
1 no.	White Line Markers	4,000	4,000
1 no.	Road Signs Workshop Equipment	10,000	10,000
		Total	168,500

Table 5.18: PHYSICAL WORKS - PEDESTRIAN AND CYCLE FACILITIES

No. Unit	Description	Unit Cost US$	Total US$
15 kms	Footpaths	16,500	247,500
15 kms	Cycleways	22,000	330,000
5 kms	Pedestrian Streets	55,000	275,000
5 no	Footbridges	110,000	550,000
		Total	1,402,500

Table 5.19: PHYSICAL WORKS - PUBLIC TRANSPORT FACILITIES

No. Unit	Description	Unit Cost US$	Total US$
50 sites	Bus Shelters	1,100	55,000
50 sites	Bus Laybyes	4,500	225,000
10 sites	Construct Bus Terminals	55,000	550,000
		Total	830,000

Table 5.20: PHYSICAL WORKS - ROAD CONSTRUCTION (NEW)

Priority No:	Description	Length (km)	Year (1)	Cost Estimate US$
1	Causeway to South Mombasa	16.0	3-5	12,000,000
1	Access Roads into Low Income Areas	3.0	1-5	900,000
			Total	12,900,000

(1) From 1990/91 to 1994/95

MOMBASA URBAN TRANSPORT PROGRAM

Table 5.21: PHYSICAL WORKS - ROAD MAINTENANCE

Description	Length (km)	Unit Rate US$	Total US$
Resealing	20	14,000	280,000
Overlay	110	28,000	3,080,000
Rehabilitation	30	150,000	4,500,000
Reconstruction in Full	20	230,000	4,600,000
Regravelling	50	10,000	500,000
Totals	230		12,960,000

Table 5.22: PHYSICAL WORKS - ROAD SAFETY MEASURES

No.	Unit	Description	Unit Cost US$	Total US$
5000	meters	Pedestrian Guard Rail	45	225,000
7500	no.	Cats Eye Studs	10	75,000
2500	no.	Reflective Marker Posts	15	37,500
50	sites	Road Bumps and Rumble Strips	1,100	55,000
5	sites	Pedestrian Phases at Signals	3,000	15,000
			Total	407,000

Table 5.23: PHYSICAL WORKS - STREET LIGHTING

No.	Unit	Description	Unit Cost US$	Total US$
1	item	Spares (bulbs etc.)	300,000	300,000
2000	no.	Rehabilitation of Lamps	550	1,100,000
			Total	1,400,000

Table 5.24: PHYSICAL WORKS - TRAFFIC MANAGEMENT

No.	Unit	Description	Unit Cost US$	Total US$
5	sites	Traffic Signal Intersections (1)	25,000	125,000
25	sites	Junction Improvements	20,000	500,000
1250	no.	Traffic Signs (reflectorized)	250	312,500
1000	kms	Road Markings	250	250,000
			Total	1,187,500

(1) Equipment costs not included

KISUMU URBAN TRANSPORT PROGRAM

Table 5.25: EQUIPMENT - PARKING FACILITIES

No.	Unit	Description	Unit Cost US$	Total US$
200	no.	Meters and Poles	500	100,000
1	no.	Vehicle for Mechanics	20,000	20,000
20	no.	Wheel Clamps	400	8,000
20	no.	Meter Winding Keys	80	1,600
1	item	Spares for New Meters	30,000	30,000
			Total	159,600

Table 5.26: EQUIPMENT - ROAD MAINTENANCE

No:	Description	Average Cost US$	Total US$
3	Tippers	50,000	150,000
1	Flat Trucks	40,000	40,000
2	Rollers	120,000	240,000
1	Rollers Small	15,000	15,000
1	Water Tanker	60,000	60,000
3	LDV's	19,000	57,000
2	Graders	220,000	440,000
2	Front End Loaders	250,000	500,000
2	Tractor Trailers	20,000	40,000
1	Distributor	100,000	100,000
2	Tractors	50,000	100,000
1	Compressor	40,000	40,000
1	Street Light Maint. Vehicle	50,000	50,000
1	Dumper Small	20,000	20,000
	Workshop Tools	148,000	148,000
	Improvements to Depot	1,000,000	1,000,000
		Sub Total	3,000,000

Table 5.27: EQUIPMENT - TRAFFIC MANAGEMENT

No.	Unit	Description	Unit Cost US$	Total US$
5	sites	Traffic Signal Equipment	30,000	150,000
1	item	Traffic Signal Spares	4,500	4,500
1	no.	White Line Markers	4,000	4,000
1	no.	Road Signs Workshop Equipment	10,000	10,000
			Total	168,500

Table 5.28: PHYSICAL WORKS - PEDESTRIAN AND CYCLE FACILITIES

No. Unit	Description	Unit Cost US$	Total US$
8 kms	Footpaths	16,500	132,000
8 kms	Cycleways	22,000	176,000
1 kms	Pedestrian Streets	55,000	55,000
2 no	Footbridges	110,000	220,000
		Total	583,000

Table 5.29: PHYSICAL WORKS - PUBLIC TRANSPORT FACILITIES

No. Unit	Description	Unit Cost US$	Total US$
20 sites	Bus Shelters	1,100	22,000
20 sites	Bus Laybyes	4,500	90,000
1 sites	Bus Station	1,500,000	1,500,000
		Total	1,612,000

Table 5.30: PHYSICAL WORKS - ROAD CONSTRUCTION (NEW)

Priority No:	Description	Length (km)	Year (1)	Cost Estimate US$
1	Kisumu By Pass	5.0	3-5	4,000,000
1	Access Roads	120.0	1-5	5,400,000
			Total	9,400,000

(1) From 1990/91 to 1994/95

Table 5.31: PHYSICAL WORKS - ROAD MAINTENANCE

Description	Length (km)	Unit Rate US$	Total US$
Resealing	41	15,000	615,000
Overlay	39	35,000	1,365,000
Rehabilitation	50	165,000	8,250,000
Reconstruction in Full	20	230,000	4,600,000
Regravelling	50	9,000	450,000
Totals	200		15,280,000

KISUMU URBAN TRANSPORT PROGRAM

Table 5.32: PHYSICAL WORKS - ROAD SAFETY MEASURES

No.	Unit	Description	Unit Cost US$	Total US$
2000	meters	Pedestrian Guard Rail	45	225,000
4000	no.	Cats Eye Studs	10	75,000
1000	no.	Reflective Marker Posts	15	37,500
20	sites	Road Bumps and Rumble Strips	1,100	55,000
			Total	407,500

Table 5.33: PHYSICAL WORKS - STREET LIGHTING

No.	Unit	Description	Unit Cost US$	Total US$
1	item	Spares (bulbs etc.)	100,000	100,000
500	no.	Rehabilitation of Lamps	550	275,000
			Total	375,000

Table 5.34: PHYSICAL WORKS - TRAFFIC MANAGEMENT

No.	Unit	Description	Unit Cost US$	Total US$
5	sites	Traffic Signal Intersections (1)	25,000	125,000
12	sites	Junction Improvements	20,000	240,000
500	no.	Traffic Signs (reflectorized)	250	125,000
600	kms	Road Markings	250	150,000
			Total	640,000

(1) Equipment costs not included

Macro-Economic Development Overview

Despite unfavorable external conditions Kenya's past economic performance has been commendable. Its long-term rate of growth have been impressive and its macro-economic management has for the most part been sound. However, Kenya, like many other African countries, continues to be buffeted by external economic shocks. Kenya's vulnerability to these shocks has had a major destabilizing effect on the domestic economy. The Government's responses have not always been sufficient to correct the macro-economic imbalances.

The most serious obstacle to long-term economic development and improvements in living standards in Kenya is its high population growth rate. The present population of about 21 million is expected reach more than 30 million by the year 2000, an increase of 42 per cent in a little over ten years. With the number of inhabitants increasing at a rate of 3.4 per cent per annum, the labor force is expected to double before the year 2000 - necessitating the absorption of 7 million new entrants into the work force. To achieve this level of absorption the economy will have to grow at about 5 percent per annum.

The Government envisages that economic growth will mainly come from three areas: (a) a strong labor-intensive agricultural sector based on substantially higher average yields than currently prevail; (b) a large and vigorous rural non-farm i formal sector based on forward and backward linkages to agriculture; and (c) a restructured and efficient export-orientated manufacturing sector that together with tourism and agriculture provide the foreign exchange needed to support growth without excessive reliance on external assistance. Whilst these are not impossible tasks, it will require major efforts on a broad front if Kenya's policy makers and managers are to achieve the required economic growth.

Agricultural growth must increase at an annual rate of at least 4 percent simply to maintain per capita production at present levels. However there are physical and environmental constraints associated with this growth. Only 18 percent of Kenya's land area is suitable for cultivation. Population densities in these areas already exceed 300 persons per sq.km. The physical environment will become increasingly threatened as the carrying capacity of these areas is reached and deforestation for agricultural and fuel purposes increases. Growth in the agriculture sector in the longer term must therefore be a function of improved productivity and higher yields. Because of these constraints and the high susceptibility of the sector to external shocks such as drought and international commodity prices, Government must also build up other sectors if a steady growth in the economy is to be sustained.

The industrial sector will need to be revitalized if it is to play its part in economic growth. Although the sector is well diversified and among the largest in Sub-Saharan Africa, the pace of growth has reduced over time. A number of issues have combined to create this deceleration in investment levels. Lack of incentives, civil disorder (in 1982) and the break up of the East African Community have all contributed to increased caution on the part of investors. Recognizing some of these constraints the Government has recently embarked on a program of reforms to promote exports and increase import substitution. These involve a number of measures dealing with import licensing and liberalization, price decontrol, export and investment incentives, promotion of development finance institutions, and steps to activate capital and money markets. Progress on all these fronts will be essential if the industrial sector is to play its role in economic growth. Because of the longer term constraints in the agricultural sector, manufacturing, commerce and services will need to contribute a steadily increasing proportion of job opportunities if the Kenyan economy is to achieve its growth target.

Recent employment data covering the period 1983-87 indicates that the Government's target of 4 percent growth in employment has been exceeded (Table A1.1). However, a large part of the growth of 4.6 percent, is provided by the public sector, including a 4.3 percent growth in central Government and Teachers' Service Commission employment (97,000 jobs). Private sector employment in agriculture and manufacturing has not kept pace with the growth in the labor force. The average growth in these sectors over the five year period averaged 3.1 percent (72,000 jobs). The largest growth in employment has been in small scale enterprises. Employment growth in this sector averaged 9 percent between 1983 and 1987 (91,000 jobs).

The growth in the public sector is a response to two situations - increasing demand for public services, and Government's attempts to alleviate concerns over unemployment. a) This growth in public sector employment has been an important determinant in recent fiscal deterioration. Public expenditures as a proportion of GDP reached 30 percent in 1988. Much of this additional expenditure was the result of increases in civil service employment. As a consequence current expenditures have been difficult to curtail and have continued to rise.

The cuts that have been made in the public sector have been in non-wage operations and maintenance, resulting in a decrease in civil servant productivity and reduction in the asset value of Government stock. Because of fiscal pressures, it is unlikely that Government will be able to maintain such a high employment growth rate in the future.

Kenya's balance of payments position has shown significant variability over the past five years. Three out of the five years have shown an overall balance of between $45 - $90 million and two years, 1985 and 1987 showed a deficit of about $100 million (Table A1.2). These shifts have mainly resulted from fluctuations in export performance. In overall terms exports have remained relatively static, varying within a range of $915 - $1,180 million The fluctuations have largely been in response to changes in world prices for its two major exports, coffee and tea and to a lesser extent price and demand fluctuations for exports of petroleum products. In real terms, total exports in 1987 were equivalent to less than 75 percent of the level in 1982. Imports have shown a steady rise of about 5 percent per annum in the past five years (Table A1.3).

The balance of payments is unlikely to show any significant improvement in the near future. Tea and coffee prices are expected to remain low or fall and the recent cut in the ICO quota will continue to depress Kenya's two major exports. A number of factors are likely provide some relief, but are unlikely to offset the lack of growth in coffee and tea. These favorable factors include: (i) a moderate fall in oil prices; (ii) improvements in the security situation along border areas; and (iii) continuation of the Government's flexible exchange rate policy.

Table A1.1: RECORDED EMPLOYMENT IN THE PUBLIC AND PRIVATE SECTOR
(Thousands) a/

	1983	1984	1985	1986	1987	Distrib-ution '87	Average Growth Rate (1983-87)
Modern Sector	1093.3	1119.4	1174.4	1220.5	1262.7	80.2%	3.7%
Private	565.5	577.9	599.8	620.7	638.1	40.5%	3.1%
Agriculture	177.3	181.3	186.0	193.0	199.7	12.7%	3.0%
Manufacturing	117.1	119.7	123.6	128.7	131.1	8.3%	2.9%
Other	271.1	276.9	290.2	299.0	307.3	19.5%	3.2%
Public	527.8	541.5	574.6	599.8	624.6	39.7%	4.3%
Central Gov.	226.4	231.1	252.0	259.7	274.4	17.4%	4.9%
TSC b/	124.1	132.2	151.0	164.0	173.0	11.0%	8.7%
Other Public	132.1	130.5	126.0	132.8	133.7	8.5%	0.3%
Local Gov.	45.2	47.7	45.6	43.3	43.5	2.8%	-1.0%
Small Scale Ent.	221.4	233.3	254.5	281.0	312.1	19.8%	9.0%
Urban	134.4	145.0	158.2	182.6	202.1	12.8%	10.8%
Rural	87.1	88.3	96.3	98.4	110.0	7.0%	6.0%
Total	1314.7	1352.7	1428.9	1501.5	1574.8	100.0%	4.6%

a/ Estimated to cover about 20 per cent of the total labor force. Excludes self-employed and unpaid family workers.
b/ Teacher's Service Commission.

Source: Economic Survey. Kenya Recent Economic Developments and Selected Policy Issues, World Bank Report No. 7411-KE, September 26, 1988.

In order to sustain economic growth and generate employment for Kenya's rapidly growing labor force, stabilization measures need to be supported by a continuation and deepening of structural adjustment efforts. In the short run these efforts should be focused on controlling the growth of public spending, particularly recurrent expenditures, and maintaining a lower budget deficit in order to free up resources for private investment. Over the medium term, continued emphasis needs to be put on promoting structural adjustment in agriculture, manufacturing, trade policies and the financial sector. The Government also needs to improve the efficiency with which public sector resources are utilized and maintained.

Table A1.2: BALANCE OF PAYMENTS SUMMARY, 1983-87
(US$ million)

	1983	1984	1985	1986	1987
Trade (net)	-271.3	-313.7	-329.4	-286.3	-714.0
Exports (fob)	926.6	1034.5	943.2	1170.3	908.7
Imports (fob)	1197.9	1348.2	1272.6	1456.6	1622.7
Services (net)	53.4	17.3	41.2	35.2	2.7
Transfers (net)	179.7	176.6	191.6	206.9	214.6
Current Account Balance	-38.2	-119.8	-96.6	-44.2	-496.7
Long-term Capital	89.4	133.1	-51.5	102.3	284.2
Other Capital	14.4	41.4	45.5	32.8	109.7
Errors and Omissions	20.4	-9.6	-12.4	-0.9	10.8
Overall Balance	86.0	45.1	-115.0	90.0	-92.0

Source: Economic Survey. (As above)

Table A1.3: COMPOSITION OF IMPORTS AND EXPORTS, 1982-87
(US$ million)

	1982	1983	1984	1985	1986	1987
Imports						
Food	97	124	177	133	143	119
Industrial Supplies	412	377	401	430	503	570
Fuels	609	498	461	458	294	343
Machinery & Cap. Equip.	291	211	257	219	314	389
Transport Equipment	157	95	157	149	320	232
Consumer Goods	82	56	69	67	75	86
Total Imports	1648	1361	1522	1456	1649	1739
Exports						
Coffee	265	241	283	281	479	236
Tea	142	185	263	233	213	199
Petroleum	259	186	183	142	122	116
Others	333	339	318	300	367	365
Total Exports a/	999	951	1047	956	1181	916

a/ Excludes re-exports.

Source: Economic Survey. (As above)

Legal Notice No. 297

THE STATE CORPORATIONS ACT

(Cap. 446)

IN EXERCISE of the powers conferred by section 3(1) of the State Corporations Act, I, Daniel Toroitich arap Moi, President and Commander-in-Chief of the Armed Forces of the Republic of Kenya, make the following Order:

THE NYAYO BUS SERVICE CORPORATION ORDER, 1988

1. This Order may be cited as the Nyayo Bus Service Corporation Order, 1988.

2. (1) There is hereby established a state corporation to be known as the Nyayo Bus Service Corporation (hereinafter called "the Service") which shall be a body corporate in accordance with section 3 of the Act and which shall perform and exercise the duties, functions and powers specified in the Act and in this Order.

(2) The Service is the successor of the Government in respect of the Government Commuter Bus Services established throughout Kenya by the Government and operated in accordance with the Exchequer and Audit (Government Commuter Bus Services) Regulations, 1987 (now revoked).

(3) Subject to the Act, all rights, duties, obligations, assets and liabilities of the Government Commuter Bus Services existing at the publication of this Order shall be automatically and fully transferred to the Service and any reference to the Government or to the Treasury or to the National Youth Service in connection with the Government Commuter Bus Service in any written law or in any contract or document shall be deemed to be a reference to the Service established under this Order.

3. (1) There shall be a Board to be known as the Nyayo Bus Service Corporation Board of Management.

(2) The Board shall, subject to section 6(4) of the Act, consist of:-

(a) a non-executive chairman appointed by the President;

(b) a managing director;

(c) the Permanent Secretary to the Ministry for the time being responsible for matters relating to transport and communications;

(d) the Permanent Secretary in the Office of the President responsible for matters relating to the National Youth Service;

(e) the Permanent Secretary to the Treasury;

(f) the Director, National Youth Service;

(g) not more than five other members not being employees of the Service of whom not more than two shall be public officers, appointed by the President.

4. (1) There shall be a managing director for the Service who shall be its chief executive and secretary to the Board.

(2) The managing director shall be appointed by the President on such terms and conditions as the President shall, in consultation with the Board, determine.

5. (1) The purpose and object for which the Service is established is to undertake and provide commuter bus services operated and maintained by it to complement public transport for commuters in urban and peri-urban centres and on such other routes as the Board may determine.

(2) The Service may engage in other activities as the Board, with the approval of the President, shall determine.

6. The Board shall:-

(a) administer the assets and funds of the Service in such manner and for such purposes as will promote the best interests of the Service in accordance with the Act;

(b) have power to receive, on behalf of the Service, gifts, donations, grants or other money and equipment and to make legitimate disbursements therefrom;

(c) have power to enter into association with other persons, bodies or organizations within or outside Kenya as the Board may consider desirable or appropriate and in furtherance of the purposes for which the Service is established;

(d) make by-laws for the proper and efficient management of the Service which by-laws shall be issued by the managing director on behalf of the Service and shall not be published in the Gazette but shall be brought to the attention of all those affected or governed by them.

7. (1) The Board shall establish for the Service a "Nyayo Bus Service Fund" (hereinafter called "the Fund") to which all monies and equipment received by the Service shall be credited and out of which all payments and disbursements made by or for the Service shall be made.

(2) The Board shall, in connection with the Fund:-

(a) supervise and control the administration of the Fund;

(b) open a banking account or banking accounts for the Fund;

(c) invest any surplus funds in the manner approved by the President;

(d) determine and fix bus fares to be charged to commuters which should be reasonable and compatible with those applicable in the industry and which will be reviewed periodically;

(e) if it thinks fit, impose conditions as to the use to be made of any expenditure authorized by it or on its behalf and such conditions may impose any reasonable prohibition, restriction, suspension or requirements concerning such use or expenditure;

(f) incorporate and institute prudent measures for collection of the revenue with suitable in-built internal controls and appropriate mechanism for collection and accountability.

8. No matter or thing done by the chairman or any other member of the Board or any officer, employee or agent of the Service shall, if the matter or thing is done bona fide for the purpose of executing any provision of this Order, render the chairman, member, officer, employee or agent or any person acting by these directions, personally liable to any action, claim or demand.

9. The provisions of this Order shall not relieve the Service of the liability to pay compensation or damages to any person for any injury to him, his property or any of this interests caused by the exercise of any power conferred by this Order or by the failure, whether wholly or partially, for any works.

10. (1) The Service may, by resolution, either generally or in any particular case, delegate to any committee of the Service, or to any member, officer, employee or agent of the Service the exercise of any of the powers or the performance of any of the functions or duties the Service is authorized by this Order to exercise or perform..

(2) Notwithstanding subparagraph (1), the operation of the public transport for commuters provided by the Service shall be delegated to the National Youth Service established under the National Youth Service Act.

Made on the 15th July, 1988.