Links Between Transport and Poverty: A Review Of Transport Policies In Kenya and The Links With Poverty Reduction

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EXECUTIVE SUMMARY

A) Poverty Context

i) Kenya's economic performance drastically declined from a GDP growth rate of nearly 5% in the early 1970s and 80s to between 2.5% and 2.0% pa in the 90's. More recently the country recorded the lowest levels of economic growth at –0.3% in 2000 before rising to 1.2% in the year 2002

ii) The numbers of people living in poverty has been steadily rising from around 40% in mid 90's to about 54% in 2002. It is within this context that Kenya launched a Poverty Reduction Strategy Paper (PRSP) in 2001. This is a 3-year strategy within the long term National poverty Eradication Plan. Its objectives are to provide a link between policy planning and budgeting by specifically matching national development priorities to available resources.

B) Transport Policy Context.

i) Kenya does not have a comprehensive national transport sector policy. This is currently being developed, and it finalization is expected by end of 2003. At the moment, the Ministries of Transport and Communications and the Ministry of Public Works and Housing share the policy development function.

ii) Transport contributes 6 % of the country's GDP and consumes 6.3% of the public resources as a proportion of GDP. It ranks first in the budgetary allocations in the 2001-2004 medium-term expenditure framework (MTEF), which is based on the PRSP priorities. The most important transport services on the basis of output (using 1998 data) are road, at 34%; air, at 25%; and water, at 16%.

iii) Absence of an integrated transport policy has led to fragmentation of policy responsibilities and presently, there is evident lack of coherence between transport statements found in Sessional Papers, National Development Plans, The Economic Recovery Strategy, the Poverty Reduction Strategy Paper (PRSP) and other sectoral strategies.

C) Kenyan Poverty Reduction Strategy Paper:

The PRSP lists 11 causes to poverty as identified by poor people. Among this, roads and other forms of physical infrastructure are ranked highly.
The Kenyan PRSP has a triple thrust to poverty reduction.

- First it recognizes the need to facilitate economic opportunities, and to especially expand opportunities to the poor.
- Secondly, it underlines the importance of access to social services that are strategic to the poor. These include health, education and information.
- Underlying these two, are the institutional and ethical dimensions to management of development and public affairs in general. In particular, the PRSP underscores the importance of enhanced people's participation in decision-making and accountability..

The three principles above can be used as important pillars of a pro-poor transport sector policies.

D) Transport and Poverty in Kenya: Overarching Concerns.

i) *Arresting infrastructure deterioration without unreasonably re-allocating resources from other sectors that are important to the poor*. Kenya experienced rapid expansion of road infrastructure in the late 60's and 70's, largely as a result of high levels of development assistance from bilateral and multilateral agencies. However, drastic reduction in this support, and absence of alternative funds for routine maintenance, led to considerable deterioration of roads, both classified and unclassified, since the 80's. Currently, it is estimated that 57 per cent of the classified roads can be maintained, while 43 per cent require rehabilitation. The state of roads in Kenya is often cited as the reason for declining regional competitiveness in trade, industry and commerce. The challenge is to ensure that deterioration of the road infrastructure is arrested in order to reduce the cost of transportation. While doing this, it is important to safeguard against unreasonable re-allocation of resources from sectors that are important for the livelihoods of the poor, especially health, water and education.

ii) *Improving public accountability in transport infrastructure investment programmes*: Public works programmes involving construction/rehabilitation of roads have over time generally become associated with large-scale financial shenanigans and unethical public management practices. For the transport sector to become an agent of poverty reduction there is need to drastically improve the mechanisms for public accountability in order to stem leakages and to ensure the public is getting value for money.

In order to improve resource mobilisation and accountability, the government has established the Kenya Roads Boards and District Roads Committees. Some progress has been made in overall performance of infrastructure financing. However, the public representation mechanisms still need to be strengthened.

iii) *Having an integrated transport policy that explicitly interfaces with other sectors*. While the importance of an integrated transport policy cannot be over-emphasised, an additional dimension to this is the extent to which transport policies are coherently linked with objectives in other sectors. In respect to poverty reduction, transport policies should have clear links with priority targets as established in other sectors. Thus, the role of formulating transport policies, strategies, action-plans and monitoring systems becomes a cross-sectoral responsibility especially involving sectors to which transport is a key service.

E) Specific Concerns

In conformity with conventional practice, transport policy and practice in Kenya prioritizes the mobility of vehicles, rather than access for people. In general, investments tend to favour those who are already mobile, especially vehicle owners and users. Externally funded projects reinforce these tendencies, as large-scale national transport projects tend to attract larger disbursements in a short period of time.

i) *Eliminating impediments to non-motorized transport*: Research carried in Nairobi shows that transport policies have largely supported motorized transport at the expense of non-motorized transport, which is more affordable to the poor. This is also generally true for the whole country. The results have been increased accidents against IMTs users, lack of infrastructure and unreasonably high costs of owning and operating IMTs. Dramatic improvements can for example be achieved by shifting from walking to cycling. Even though the government of Kenya zero-rated import duty on bicycles, which has improved ownership levels, there is still lack of infrastructure and regulatory support to use in both rural and urban areas.

ii) *Incorporating accessibility concepts in transport planning*: In both rural and urban areas of Kenya, the poor tend to live in areas of relative isolation. Rural access programmes often offer more benefits to longer distance traffic. For the rural poor, a key concern is basic access to local facilities and primary network. Improving this access requires specific attention to the network of paths and tracks that provide key links between households and the wider facilities. In general, this network tends to be unclassified, leading to absence of a maintenance system. In urban areas, a well-articulated accessibility policy would ensure that informal settlements are well linked to employment and income generating opportunities through appropriate infrastructural networks and well regulated informal transport services.

iii) *Strategic links between transport and priority sectors*: The PRSP acknowledges the importance of having a comprehensive approach to transport in the following sectors: (a) *Smallholder agricultural sector*. While most large-scale agricultural operations are well linked to main networks, this is not the case for smallholder sector. Within this sub sector, the poor state of rural infrastructure is the primary constraint to effective marketing and distribution of produce. (b) *Rural Water and health facilities*: This is a particularly grave problem in Arid and Semi Arid areas, which cover 70% of the country. Distances to basic services are enormous and this is exacerbated by absence of infrastructure and transport

services. (c) *Livestock Development*: Improvement of marketing systems and infrastructure in pastoralists' districts is a key priority in poverty reduction in Kenya. The current system where live cattle are trekked up to 1,000 km along poor roads stifles the growth of the sector. (d) *Fisheries*: Absence of well developed landing sites and infrastructure is seen as an impediment to the growth of this sector which a lot of poor people depend on.

F) Desired policy path

In order to entrench pro-poor principles in Kenya's transport policy, the following is important.

- Consultation with poor people about priority concerns in transport be undertaken
- Allocate more expenditure to the local government level for investments in local infrastructure, with basic access being a priority concern
- Devolve more decision making power to local government regarding setting of transport priorities
- Mainstream and replicate more widely, labour-based methods and use of local contracting as a way of income generation and capacity building.
- Have a comprehensive approach to the use of IMTs. Key issues include infrastructure, financing and regulations
- Ensure that priority sectors for the poor incorporate access issues.

1.0 Introduction

The policy development challenge for transport falls under the Ministry of transport and communication as well as the Ministry of Public Works and Housing. Kenya does not have a comprehensive national transport sector policy though the current government is in the process of developing one. However, transport policy statements are articulated in sessional papers, development plans and economic recovery strategies as well as the PRSP and sectoral strategy papers mainly in the road sector. In this regard, transport issues are dealt under physical infrastructure and normally under the various sub-sectors: -

- Road transport
- Rail transport
- Air transport
- Marine transport; and
- Pipeline transport

1.1 Transport Sector and The Economy

Development and maintenance of physical infrastructure are prerequisites for economic growth and poverty reduction, as they influence production costs, employment creation, access to markets, and investment. Transport contributes 6 % of the country's GDP and consumes 6.3 % of the public resources as a proportion of GDP. It ranks first in the budgetary allocations in the 2001-2004 medium term expenditure framework (MTEF), which is based on the PRSP priorities. A significant constraint to competitiveness in Kenya arises from deficiencies in her physical infrastructure (power, water and roads) and their impact on firm cost. The manufacturing sector is particularly vulnerable to power supply outages and transport inefficiencies (World Bank 2003:P 18). In the 1990s, the deterioration of both the classified and unclassified roads led to high production costs, consequently discouraging investment (Nalo 1993; Kimuyu and Mugerwa 1998; GoK 2000a).

Studies on rural road projects in sub-Saharan Africa reveal a strong catalytic effect of rural feeder projects on agricultural development. In Kenya, rural access and minor roads programmes (RARP and MRP), which are formulated and implemented by the government as central infrastructure strategies for rural development, have had positive impacts in providing cheap access to markets for both agricultural outputs and modern inputs. Impact evaluation of the RARP showed an increase in crop production of 29% from baseline conditions one year after the programme was completed. Over that period, sales of

farm produce went up by 51%, farm income by 27%, non-farm cash earnings by 11%, and total household earnings by 20% (MoITC 1984). A study by Obare (2000) corroborates findings of previous research: in Nakuru District a reduction of access costs by 10% translated into average production costs savings of Ksh 14,000 per hectare.

The most important transport services on the basis of output (using 1998 data) are road, at 34%; air, at 25%; and water, at 16% (Table 2). The regional demand for all transport services is significant and is expected to rise with the growing economic cooperation among the three East African and COMESA countries

Table 2. Structure of Kenya's transport service sector (Kenya £ millions)

Mode	1975	1980	1985	1990	1995	1998
Road	35.8 (24.4)	92.3 (33.1)	248.8 (45.1)	476.9 (44.3)	810.7 (36.3)	870.7 (33.7)
Railway	25.4 (17.3)	32.9 (11.8)	57.7 (10.5)	94.5 (8.8)	225.0 (10.1)	187.4 (7.3)
Water	34.5 (23.6)	62.7 (22.5)	89.2 (16.2)	134.2 (12.5)	372.3 (16.7)	408.6 (15.8)
Air	39.9 (27.2)	41.6 (14.9)	86.8 (15.8)	268.2 (24.9)	471.1 (21.1)	650.5 (25.2)
Pipeline	–	18.6 (6.7)	23.4 (4.2)	31.1 (2.9)	197.8 (8.9)	278.0 (10.8)
Incidental services	10.9 (7.4)	31.2 (11.2)	45.2 (8.2)	72.7 (6.7)	153.8 (6.9)	186.7 (7.2)

Source: *Wasike, 2001*
Note: *Figures in parentheses are percentages of the share of each service in the transport sector output.*

1.2 Transport and Poverty

Poverty definitions differ according to perspectives. Generally speaking absolute poverty refers to subsistence below minimum socially acceptable conditions while relative poverty compares the lowest segments of a population with upper segments usually measured in income quantiles. The Poverty Reduction Strategy Paper defines the poor as those who cannot afford basic food and non-food items. Poverty is associated with such features as lack of proper housing; poor health; inability to educate children and inability to pay medical bills.

DFID/World Bank, 2000 identifies six dimensions of poverty which transport helps reduce*:*

a) Reducing geographic isolation and difficulty of access thus enhancing participation in labor and product markets and economic opportunities. This enhances income generation and consumption and ability to accumulate private and social assets.
b) Transport infrastructure in rural areas can enhance access to services and facilities thus strengthen human capabilities
c) By enhancing access to assets and technology transport changes people's pre-disposition to time-and energy intensive production methods e.g. women to more rewarding activities
d) Enhanced access to services, facilities and other resources enhances people's participation in and development of social cultural events as well as linkages to other community members reducing voicelessness and disconnection with the wider community.
e) All the aforementioned problems contribute towards increased insecurity and vulnerability in respect to risks, shocks and violence within the environment within which they live and work
f) Additionally, transports improves:

g) Structural conditions by through its ability to meet people's transport needs according to the geography and spatial dimensions through planning, promotion of appropriate modes of transport that are socially, economically and environmentally sustainable
h) Livelihood assets by improving poor people's individual and communal assets in terms of means of transport, transport infrastructure -physical assets in addition to human assets (skills), social assets (interaction)

In this regard, transport strategies on poverty are seen on two levels:

a) Improving and influencing Institutional conditions through: -

- Policy influencing to create conducive institutional conditions for poor people to meet their livelihoods through e.g. goods and services from which communities draw their livelihood strategies as well as get employment
- Influencing regulations, culture and gender dynamics in transport service and infrastructure provision

b) Enhancing Livelihood strategies

- Group capacity building and linkages
- Transport is a means of accessing social, human resource, income generating and institutional enhancing resources

1.3 Kenyan PRSP and Transport

The PRSP is a short-term (3-year) strategy to the long term National poverty Eradication Plan. Its objectives include

a) Linking policy planning and budgeting
b) Identifying national development Objectives and priorities
c) Quality expenditures leading to efficiency gains
d) Harmonization of the financing framework
e)

The Kenyan PRSP seeks to enhance equity and access to economic resources by providing viable incentives to the poor, small-scale producers, smallholder peasants and traders. This objective reflects the fact that growth policies without effective resource distribution will have a limited impact on poverty reduction. Additionally, it states that the government policy will focus on pro-poor growth by: -

a) Promoting access to markets and market opportunities for the poor. This requires infrastructure provision, access to credit, employment, etc. This will ensure that markets work better for the poor.
b) Generating employment, improving productivity and improving conditions in the labour market. Therefore the need for the government to realign composition of GDP to bias it towards investments.
c) Putting in place appropriate taxation policies**.** These will among others including target exempting or zero-rating essential goods consumed by the poor and providing infrastructure (affordable energy, better roads, etc.) in rural areas to attract local and foreign investors into these areas
d) Supporting tariff harmonisation within EAC/COMESA so as to rationalise the tariff structure to remove distortions and align them as closely as possible with those of the trading partners within the region. This will reduce the urge by industrialists to relocate to other countries with better tax regime.

The Kenyan PRSP recognizes:-

- The inability by a majority of Kenyans to afford and access medical care and health facilities, especially in remote rural parts of the country.

- Lack of access roads as a major contributor to reduced productivity and increased poverty in the country. The poor state of the country's road networks in urban and rural areas affects all sectors of the economy hampering productivity as cited in all the 70 districts that took part in the PRSP consultations
- Importance of enhanced participation of the people in all aspects of decision making; removal of intrusive, restrictive and outmoded laws and regulations; promotion of accountability and transparency in all spheres of public and economic engagements are important challenges in the fight against poverty and economic decline.

The Kenyan PRSP identifies 11 causes poverty as identified by most communities and translates them into 8 national sector priorities. Inadequate roads are among the eleven causes so identified. These are translated into sectoral priorities where Agriculture and Rural Development Sector received highest priority ranking followed by Human Resource Development, with Physical Infrastructure where transport falls being ranked third.

2.0 PRSP and Transport Issues

In order to contribute to poverty reduction in the transport sector, the government proposes various actions in the various transport sub-sectors.

2.1 Roads

During the 1980s, most of the roads constructed in the 1960s had deteriorated and emphasis was placed on reconstruction and improvement of secondary and minor roads. The sector has, however, continued to suffer negative growth in the 1990's. Currently, it is estimated that 57 per cent of the classified roads are in good condition and can be maintained, while 43 per cent are in poor conditions and require rehabilitation. Rural access roads, most of which fall under the Local Authorities and are unclassified, have also continued to deteriorate due to low financing. The key issues affecting this sub-sector and identified in the PRSP include:

i) Poor state of the trunk road network;
ii) Poor or lack of rural access roads;
iii) Poor linkages between rural access and other rural roads and major highways;
iv) Lack of efficiency in use of roads funds;
v) Lack of adequate quality control in execution of road works;
vi) Misuse of road facilities;
vii) Lack of adequate research and development in roads.
viii) Lack of footpaths and bicycle lanes.

In order to improve on the delivery of road infrastructure, the Government proposes to improve the management of interventions in the roads sub-sector through the operationalisation and facilitation of the Kenya Roads Board (KRB) and District Roads Committees (DRCs). The KRB will oversee the maintenance of all major roads, rehabilitate and upgrade international trunk roads. The Board will also facilitate the construction of bypasses to reduce congestion especially on classified roads and designate and enforce appropriate parking bays in urban areas and stopover places on major highways. Other priorities will include co-operating with other stakeholders to install, rehabilitate and maintain traffic lights and road signs and construct footpaths and footbridges along roads leading to and out of densely populated areas and pavements for use by the disabled.

The District Roads Committees will oversee the maintenance and upgrading and construction of rural access roads, footpaths and bridges. In all the above, local communities will be actively involved

in the design and implementation of roads projects. Other priority areas in the sub-sector include the intensification of measures to enhance quality control and service delivery while more resources will be dedicated to research and development. Axle load limits will be strictly enforced while the education of stakeholders will be intensified. Appropriate appraisal methods in maintenance and construction of roads will be enforced and delays in auditing and accounting for road maintenance funds will be minimised.

2.2 Railways

The Kenya Railways will contract out the management and operations of certain activities and commercialising the operations of railway transport. It will rehabilitate and modernize locomotives, railway line, wagons and other equipment, commercialise the operations of railway transport, and concession gulf marine services.

2.3 Maritime transport

The efficiency of the port operation has been affected by the limited capacity of container terminal, high management turnover, poor and near obsolete equipment, poor maintenance of equipment and poor linkage to the hinterland due to the poor performance of Kenya Railways and the poor state of roads. To correct/improve this situation the government proposes the following:

i) The existing container terminal facilities will be refurbished and expanded;
ii) The management and operations of the ports will continue to be improved and strengthened;
iii) Certain operations of Kenya Ports Authority will be privatized;
iv) Obsolete equipment and facilities will be modernized and replaced

2.4 Air transport

In order to facilitate further growth in this sub-sector, the government will:

i) Establish a clearly defined but flexible and institutional framework conducive to efficient maintenance and sustainable development of the infrastructure including airstrips through increased public and private sector's participation.
ii) Eliminate the complex and cumbersome regulations and procedures, which tend to hinder rather than encourage private sector participation.
iii) Eliminate possibilities of conflict by separating regulatory functions from service providers like air navigation services and airports.
iv) Harmonize the civil aviation functions by placing the various bodies under one Ministry and therefore reduce the administrative costs which are currently duplicated and unnecessary costs passed to the service users like airlines.
v) Address deficiencies in air safety and airport security.

2.5 Quality Control and Standards

In addition to the measures mentioned above the government proposes to develop, and enforce Quality Control and Standards in physical infrastructure, in collaboration with other players. This would support the proposed performance based contracting, which can only be realistically applied to conventionally engineered roads (whether paved or gravel) for which unambiguous standards can be set and monitored. It also recognizes in passing other public works that contribute to poverty reduction and these include pot bridge and footpaths that connect settlements in urban and rural areas.

For the sector to be efficient and effective the government proposes the following measures:-

i) Promoting efficient resource allocation and utilization of the scarce economic resources through the implementation of the PRSP/MTEF budget;
ii) Strengthen the monitoring, auditing and accounting functions in government;
iii) Strengthening the capacity of Central Bureau of Statistics to generate timely and accurate statistics;
iv) Introduce integrated financial management systems;
v) Review and strengthen Budget Monitoring processes;
vi) Streamline procurement and contracting procedures in line with the Legal Notice No. 51 of 2001;
vii) Review and streamline the operation of the district treasuries to enhance efficiency, transparency and accountability;

2.6 PRSP And Transport Related Issues In Other Sectors

The PRSP further recognises various transport-related constraints in other sectors as follows:

2.6.1 Crop Development

Within the this sub sector the poor state of rural infrastructure and the poor marketing and distribution system were cited as some of the primary constraints. The state or rural infrastructure leaves much to be desired and has suffered from decades of under-investment. Rural roads are non-existent, or where they exist in such a poor condition that marketing activities are severely affected. This raises transport costs and lowers farm gate prices and contributes – together with an outdated regulatory and legal regime - to a poor marketing and distribution system. Infrastructure constraints like lack of electricity, marketing and storage structures, and telephones hamper value added processing activities, as well as extractive activities like fishing and forestry. Many of these investments cut across to sectors outside of Agriculture and Rural development so the government will implement a Rural Development Strategy (currently under preparation) to provide a coherent framework for effective co-ordination of investment activities in rural areas. To promote the efficiency of such investments government proposes to decentralize the decision-making and development management process to the district level, nearer to the people.

2.6.2 Rural Water

In ASAL areas men have to walk long distances to water their cattle. The women have to go even further in search of water for domestic use. Piped water has direct benefits to women in terms of reducing the drudgery and time used in fetching water, boiling it, or the disease risk associated with consuming untreated and un-boiled water.

2.6.3 Livestock Development

A first priority is to improve marketing systems and infrastructure. In all pastoral districts this was the highest ranked constraint. The current system where live cattle are trucked up to 1,000 km along poor roads cannot develop the sector. These journeys can take up to 3 days during which the animals are confined to the vehicle, and cannot travel in the cold of the night. In this regard, it recommends improved tarmac roads serving northern Kenya, a review of regulations relating to livestock movement, and holding rounds in terminal markets. Additionally, it seeks to encourage the private sector to invest in such facilities by the provision of appropriate infrastructure – all weather roads and electricity for refrigeration.

2.6.4 Environment Management

Lack of pollution control and waste management programmes in urban areas; poor integration of environmental consideration in land use planning; low level of environmental data collection; Government will carry out a proper natural resource inventory and intensive research on population dynamics and the environment, and institute a national policy on agro-chemicals, industrial emissions and effluents.

2.6.5 Fisheries

To realise this potential, the government will promote private sector activities by investing in the improvement of fish landing sites and beaches, improving infrastructure at the beaches by improving roads and connecting electricity.

The aim is to promote fish processing, market access and penetration for fish

2.6.6 Tourism

The tourism sector has, despite its' recent decline, also played an important role in improving the quality of life and generation of income through employment creation, investments and indirect linkages with other sectors of the economy including agriculture, trade, construction, transport and financial services.

The sector faces the challenge of poor tourism infrastructure and facilities; and transport and communication problems

3.0 Transport Policy Response

As earlier stated, the various transport policy statements are contained in various documents including the national development plans, the Kenyan Poverty reduction strategy paper, the Kenya economic recovery strategy and the NARC manifesto. The following section looks at the thrusts of transport policy categorised according the various transport subsectors under the national development plan and the economic recovery strategy paper.

3.1 Roads Transport

In Kenya, like in most of sub-Saharan Africa, roads are managed by government departments (Table 1). The Ministry of Information, Transport and Communications (MoITC) has nominal overall responsibility for Kenya's policies involving planning, designing and management of rail, road, air and maritime transport. In practice, however, the MoITC has very little involvement in the road sector. The Roads Department of the Ministry of Roads and Public Works is responsible for planning, designing, constructing, and maintaining the classified network over 63,000 km. The Kenya Wildlife Service (KWS) is in charge of roads in the national parks. The rest of the network is administered by either municipalities and county councils, which are under the Ministry of Local Government, or the Forest Department, which falls under the Ministry of Environment and Natural Resources. In general, each agency involved in the roads subsector (that is, the three government ministries, local authorities, and KRB) has its own objectives and funding sources.

Table 1. Institutions Responsible For Road Maintenance In Kenya

Road type	Responsible institution	Network size (km)
Classified roads	Ministry of Roads and Public Works	63,300
Unclassified network		
National parks	Kenya Wildlife Service (KWS)	5,900
Game reserves	Local authorities, but contracted out to KWS	2,800
Urban roads (councils)	Local authorities (city and municipal councils)	6,000
Rural roads	County councils	63,600
Forest roads	Forest Department	8,000
Total		149,600

Source: *IEA (1998: 195)*

3.1.1 Challenges Facing Road Transport Sector

Generally, commitment to a strategic and broad-based approach to transport planning is gauged by the extent to which a country's roads policies are based on the following fundamental criteria:

- Integration—ensuring that all roads decisions are taken in the context of a coherent, integrated transport policy covering all modes
- Accessibility—making it easy to reach destinations
- Safety—making travel safer
- Economy—getting good value for money and supporting sustainable economic activity in appropriate locations
- Environmental impact—both positive and negative, on both the built and the natural environments, and at the global, regional and local levels
- Tackling road congestion

Against this criteria, the issues affecting road transport sector in the country include:

3.1.1.1 Coordination

As indicated in the table above there are many institutions charged with road maintenance rehabilitation and development in the country. It is difficult to coordinate the activities of the various road agencies, to determine their financial requirements, and to address the problems of the road sector in a synchronized manner. The general high value of roads compared with railways and air travel provides a raison-d'être for ensuring coordinated management with access to adequate funds to ensure the large investments in roads yield value-for-money operations.

3.1.1.2 Funding

It was estimated that total annual spending by Ministry of public Works and Housing (MOPWH) [same as Ministry of Roads and Public Works [MoRPW] on the maintenance and rehabilitation of the network was Ksh 1.72 billion (this included maintenance components within improvement projects)in 2001 and that adequate road maintenance for a rehabilitated and rationalized classified road network would cost in the order of Ksh 4.70 billion. Several other estimates indicate rather higher funding needs to meet maintenance requirements for the entire classified road network (World Bank 1995: 13). This is far higher than the funding available and allocations from the government resulting in inadequate maintenance and rehabilitation.

3.1.1.3 Maintenance, Repair And Rehabilitation

Conditions on most paved and unpaved roads have deteriorated significantly through a lack of maintenance and, on the main paved network, the overloading of vehicles. Further, traffic growth has resulted in a substantial network of unpaved roads carrying traffic levels that would justify paving the roads: about 2,500 km of unpaved roads carry over 200 vehicles per day.

3.1.1.4 Congestion

The road transport system, particularly in major urban areas, is characterized by heavy congestion during peak hours, over-loaded public transport vehicles, speeding, and reckless driving.

3.1.1.5 Road safety

Newspapers and government statistical abstracts show that the cost of road transport in Kenya is extremely high in terms of accidents and loss of human life. The average death rate on Kenyan roads is approximately seven persons a day comparable to Netherlands which

has a similar rate but its vehicle density is at least 10 times higher than Kenya's.

3.1.1.6 Lack of a comprehensive/integrated transport policy framework
The overall policy framework does not consider the impact on land use, the natural environment and local public finance.

Sustainable development demands that the country must develop a road policy strategy that accounts for other transport sectors and the overall development concerns of efficiency, equity and environmental sensitivity.

3.1.2 Policy Response To The Challenges
In an attempt to respond to the issues and challenges facing the sector, the Kenyan roads transport policy has focused on: -

3.1.2.1 Reducing the unit costs of transportation through:
Infrastructure improvement by coordination of road development and maintenance to ensure that the roads network is maintained rehabilitated/upgraded and expanded to rural areas through:

- Promotion of labour intensive technologies in road construction and maintenance for employment creation and foreign exchange conservation (NDP 1984-88; 89-94; 2002-8)
- Revival of the mechanical transport and Plant Fund under MTYD so as to provide sustainable funding for provision and maintenance and renewal of roads (NDP2002-8)
- Restructuring of the Roads, the transport and mechanical departments and privatization of Axle load control Function to provide necessary back up to district roads committees (NDP2002-8)
- Encouraging private sector involvement in development and maintenance of selected roads through concessioning under roads 2000 maintenance strategy mainly donor driven (NDP2002-8)
- Initiation of appropriate feasibility studies for maintenance and construction of roads, by-passes and rigorous enforcement of discipline on the roads

3.1.2.2 Increasing road safety (NDP 2002-8) by:

- Establishment of Kenya roads Safety Authority to oversee safety matters of road transport services
- Introduction of new generation Smart Card Driving license
- Provision of technical assistance to traffic Police and Director of Vehicle inspection
- Training of personnel on roads safety programs
- Elimination of unroadworthy vehicles and compulsory vehicle inspection for all types of vehicles and privatize inspection of vehicles
- privatization of vehicle inspection centers
- Harmonization of Transport Licensing Board for efficiency and increased revenue collection
- construction of NMT facilities
- Rigorous enforcement of discipline on the road

3.1.2.3 Addressing the issue of financial viability and sustainability of fees
to increase funding and ensure adequate cost recovery for efficient and continued maintenance of the road network

- change-over from cess and direct pricing to indirect revenue collection through Road maintenance Fuel Levy Fund managed by Kenya Roads Board
- increasing efficiency of transport Licensing board to collect revenue and revise fees

3.1.2.4 The reduction of congestion In urban areas and on main roads through

- dualling, fly over, tunnels grids and bypasses in the main town
- Decentralization of essential services closer to residential and industrial areas to reduce transport demand to central city and parking space problems
- Staggering working hours to redistribute peak period traffic
- Addressing the dimensions of ineffective urban transport management systems, poor physical planning and inefficient traffic management identified as issues including limited NMT facilities, same proposed fly-overs, by-passes identified as solutions (GOK: NDP 2002-8)

3.1.2.5 Labour based technology for employment creation and foreign exchange savings

The Rural Access Roads Programme, initiated in 1974 by the Government was in realisation of the need to place more emphasis on the developmental effects of road improvements. It was realised that low class roads can do a lot to accelerate growth and foster a more equitable distribution of income in the rural areas. The RARP therefore aimed to provide all-weather access between the farming areas and the market centres and at the same time create employment opportunities by employing labour intensive construction and maintenance techniques. By 1978, a total of 2,500 kilometers of rural access roads had been constructed.

The major emphasis in the road development programme has been geared towards:

- The awarding of first priority to the completion of on-going and financially committed projects under the various programmes such as the trunk and primary road projects, the GBC and the Rural Access Roads Programmes.
- The strengthening and rehabilitation of failed and excessively deteriorated portions of the paved trunk and primary network according to maintenance, its due priority in relation to capital improvement requirements.
- The selective improvement of selected road segments that indicate high rates of return.
- Providing the much-needed link between the rural access roads and the higher-class roads, thereby making the rural areas more accessible to larger market centres through the Minor Roads Programme.

3.2 Rail Transport

Transport policies on rail transport have generally focused on the following over the years:

3.2.1 Expansion, upgrading and modernizing rail transport infrastructure equipment and facilities.

Specifically, this includes: -

- Addition of fleet and realignment and upgrading of tracks to increased capacity to handle transport more goods and passengers, and to increase traffic on the rails NDP(1989-94)

to increase cost recovery and subsidies to be financed form government appropriations NDP(1989-94)

- Renewal of track relaying and renewal programme depots and container terminals
- expansion to Magadi and the export processing zones to transport export goods
- Intensification of block trains locally and across the border to reduce transit delays and implementation of a computerized project to replace the old manually operated train control

3.2.2 Increasing financial viability of the Kenya railways corporation via

- Consideration of a possible role in easing congestion as a public transport means in Mombasa-Nairobi-Nakuru-Kisumu and satellite town with fares economical to its operations
- Exploring concessioning through privatization /concessioning for full cost recovery
- Commercialization of certain services and divestiture of non-strategic services e.g. gulf marine services on Lake Victoria.
- Discontinuation of loss making operation computer services
- Staff reduction to optimal levels, closure of uneconomical branch lines and station rationalization to reduce operational costs and transit delays
- Rehabilitation/overhaul and modernization of wagons, railway line and other equipment and facilities before the privatization to add value to the railway business.

3.2.3 Institutional strengthening of the Kenya Railways management organization to increase efficiency via

- Enhancement of rail tracker system and installation of additional modules through the COMESA regional program for faster and safer transportation of goods
- Continuity of operation and management contracting of KR to increase efficiency
- Institutional strengthening with a long-term strategy to involve privatization of corporation and granting unitary concession of 20 years.
- Institutional restructuring with Kenya Railways set to be split into three:
    - Kenya Railway Company
    - Kenya Railways Asset Authority
    - Kenya railways Regulatory Board

3.3 Air transport

Kenyan air transport policies have generally focused on:

3.3.1. Upgrading, maintenance and integration of air transport facilities with other infrastructure, modes and economic activities to international standards

- Replacement and modernization of air fleet as well as modernization and upgrading of equipment and infrastructure facilities to international standards and orderly and gradual transition to future communication, navigation and Surveillance-air transport management (CNS-ATM) systems in accordance with the international civil aviation Organization and African and Indian Ocean Regional Development plans.
- Upgrading of airstrips
- Integration of route structure and Improved domestic, regional and international flight performances

- Improved maintenance of airport facilities and equipment to ensure efficiency and high standards and exploration of possible contracting of management services to private sector in this regard.

3.3.2 Improving the regulatory environment including pair transport policy

- Ensuring fair and proper operational and regulatory environment to secure adequate market share

3.3.3 Air safety and security

- Increased air safety and security and improving the quality of airport service and strengthening the relevant institutions to increase autonomy
- Continued pursuit of safe and open skies so as to address air safety and security to promote trade and tourism in the country

3.3.4 Institutional strengthening for quality services and increase the competitiveness of the industry

- Privatization and strengthening of airports and airline management with the conversion of Aerodromes department into Kenya Airport Authority exempt from State Corporations Act and the privatization of Kenya Airways. In addition to strengthening and transformation of the Directorate of Civil Aviation to a Kenya Civil Aviation Authority and the privatization of various commercial and non-regulatory functions performed by the department. Kenya airports authority to bridge revenue gap through business diversification and where possible review of charges for current services and facilities (NDP 2002-8)
- Formulation and implementation of a National Air transport Policy to improve air transport in the region. (NDP 2002-8)

3.4 Marine transport

3.4.1 Institutional restructuring and systems management to Improve management and efficiency of marine transport services through: -

- Easing congestion at the port and increasing efficiency of other related authorities through streamlining systems procedures for speedier and more efficient services; manpower training better maintenance of plant and equipment and speedier documentation.
- Integration of information technology network between KRA and KPA and Kenya Railway to increase efficiency and shorten the period of processing documents possibly through privatization of KPA's operations in the long term under BOT concept for 20-25years
- Restructuring of the KPA based on review of maintenance strategies and possible set-up of an export processing zone for increased viability and operations

3.4.2 Privatization/concessioning of marine transport services

- Government contracting out management and operations of Mombasa terminal (to Felixtowe Port Authority)
- Exploring privatization/concessioning arrangements to improve efficiency e.g. of inland depots in Kisumu and Eldoret
- KPA and Kenya ferry services joint venture with private sector explored for maintenance of mooring service NDP1997-2001

3.4.3 Upgrading and maintenance of port facilities

- Exploring the need for a second Indian ocean port
- Government facilitation of the procurement of additional ferries and modernize and expand the existing infrastructure for increased capacity and better services
- Development of container handling berths and expansion of existing port berths to handle the saturation problems on build operate transfer schemes and the provision of additional port equipment

3.4.4 Improving the regulatory environment for marine transport through

- Policy reviews to review traffic trends with other stakeholders
- KPA developing a port strategic plan for the nest 20 years to modernize the management of port facilities, infrastructure and strategizing the port for competition in the region
- Constitution of a task force to explore the viability of Kenya National Shipping Line and the proposed restructuring of shareholding as regards the strategic partner
- Exploring the possibility of charging the Department of Merchant shipping with the role of acting as a government regulatory body operating under the Ministry of transport and Communications independent of Kenya Ports Authority. Restructuring and absorption of Department of Merchant Shipping under KPA into the proposed maritime regulatory Authority (MRA) to safeguard its independence for KPA

3.5 Pipeline Transport

The policy thrusts in this area include:

a) Extension of pipeline to western Kenya later Uganda to increase exports
b) Privatization of Kenya Pipeline Company
c) Diversification of opportunities and improvement of existing facilities
d) Programs being implemented to increase KPC's foreign earnings

4.0 Transport Sector Reforms and Initiatives

In an attempt to rise to the challenges of a good transport policy which as earlier stated includes elements of Integration, accessibility, safety, economy, environmental impact and tackling congestion the transport sector has pursued several reforms in its various sub-sectors:

4.1 Roads Sector

Road and road transport is critical to the Kenyan economy with the Northern Corridor carrying 75% of freight. Historically, in the late 1960's, road network deterioration was attributed partly to vehicle overloading, but mainly to the inadequate maintenance by local authorities. To improve the situation, the central government assumed responsibility for the maintenance of the entire classified road network. Road maintenance improved considerably until 1975 when insufficient funding began to cause substantial cutbacks in both periodic (resealing and regravelling) and routine maintenance. Under-funding especially shortage of local funding was a critical issue, restricting the scope of work and delaying payments to contractors remained a problem. During the 1970s the agencies responsible for the road sector were strengthened, the Roads Department demonstrated its capacity, and the government developed appropriate objectives and policies for the sector under the Fourth Transport Plan. The slow economic growth during that period prevented the government from fully fulfilling its funding commitment for maintenance and construction. There were even bigger shortfalls in the physical implementation of the plan, especially the maintenance programme.

In general, the main policy initiatives during the first post-independence decade involved

a) provision of infrastructure by the public sector and development of rural roads using cess funds from sale of rural output,
b) rural access and minor roads programmes have characterized the Kenya road policy since the second decade, and
c) several policy reforms for road infrastructure development typify the third and fourth decades.

The issues facing this subsector have to do more with quality rather than quantity. Resources required to raised transport standards to Kenya's needs are more than is available from traditional sources. There is therefore need to:

- Establish and follow rational priorities based on clear economic and development objectives
- Allocate responsibilities to those that can most effectively discharge them
- Undertake implementation with maximum efficiency and cost effectiveness
- Mobilize private investment to increase total flows of resources to the sector and
- Introduce transparent management and hold those responsible accountable

The road sector faces the greatest issues and critical choices:-

- about US$1,000 million is needed for the main roads and substantial funding gap exists
- There is no plan for the sector and/or expenditure priorities to develop coherent workplans
- There is no funding mechanism for the maintenance of urban road networks
- There is no delivery system for the comprehensive routine maintenance of Kenya's roads
- The effectiveness of the Roads Department has been steadily eroded during the 1990s
- The mechanical and transport department (MTD) has become increasingly defunct.
- The district Roads committee appear effective but need substantially greater funding
- The traditional force account systems collapsed during 1990s and no viable alternative has been developed

(World Bank, 2003)

In a response to these issues and challenges the government has consistently pursued is decentralization of road service provision. Other government reforms and initiatives in this sector include: -

4.2 Financing

Financing for transport sector has affected the implementation of policies significantly. In the late 1970s to early 1980s most policies were implemented adequately, possibly because of the abundance of central and sub national (local authority) government resources and policies. Later (from the late 1980s onwards) fewer resources were committed to the maintenance of old roads and development of new ones. From the late 1980s, the government's burden of supporting most services increased with the rapidly increasing population and declining macroeconomic performance. The road-financing policy has shifted emphasis from tolls and cess collections from agricultural commodities to the predominance of the RMLF. The government has moved to from direct pricing of roads through tolls to indirect methods, a process begun in 1994 by the introduction of a special levy on motor vehicles. However, it would be judicious to supplement the RMLF with cess receipts and direct pricing of specific segments of Kenyan roads. Government-commissioned research (MoITC 1981, 1983, 1984; MoRPW 1991) and other studies (for example, Rhodes 1993) show that gains to agriculture from rehabilitating rural roads are considerable, and that lack of road maintenance can greatly reduce the benefits to agriculture of rehabilitated roads. Thus could be done in the economically viable areas.

Current efforts to address financial constraints include:

4.2.1 Setting up of Kenya Roads Board to Manage Maintenance Repair and Rehabilitation

The Kenya Roads Board was set up to take up road MR&R from the Ministry of Roads and Public Works. It is financed from fuel levy proceeds as well as the funding form donors. Its jurisdiction includes main trunk toads and other rural roads except for roads within the local authority's jurisdiction. It works through district roads committees and constituency roads committees for maintenance of roads at the local level. The KRB Act specifies that 16% of the fuel levy funds will be allocated equally among all constituencies and that a further 24% will be allocated "equitably" among the districts.

The Kenya Roads Board has a lot of potential to sort out the road maintenance issues. However, it has a few teething problems:

- Despite the funding allocation requirements, only the constituency funding so far has reached the districts. The equitable funds are still being used to fund works contracted prior to the KRB Act.
- The constituency funds are insufficient for rural roads, but it would be both inefficient and inequitable for all the "equitable" funds to be allocated to rural roads.

Inefficient: the present distribution of the fuel levy ignores the road maintenance needs of the urban areas. With relatively small but very densely trafficked networks, they account for a substantial proportion of the total vehicles - Kms

Inequitable: the urban road user generates over half the Fuel Levy and is presently receiving very little benefit. It may not be necessary to allocate the entire 24% to urban areas, but it is critical that the urban road networks are adequately maintained, if road user for the Fuel Levy is to be retained

- The benefits of motorized access cannot simply be measured in terms of vehicle - Kms, but in the economic and social opportunities it allows. There is a very strong argument in favor of increasing the level of rural road funding from sources other than the Fuel Levy. Already crop cesses are used to maintain roads (in tea areas, for example) but these activities are not integrated into the works undertaken under the DRCs. There may thus be a need to revise the DRCs to include those responsible for the distribution of other road funding to ensure an integrated approach to the district rural road needs.
- Rural roads have been the poor relation in the Roads Department for several years. Removing responsibility for the main road network to a separate Highway Agency could allow a greater focus on rural roads. However, a separate road agency with specific technical responsibilities for the rural, and possibly small town, roads would provide a more appropriate framework for technical and professional oversight. The DREs would be transferred to the new agency (World Bank, 2003).
- The Districts Roads Committees have been successful in bringing a more local perspective of the prioritizing of road works, and legitimacy for the work plan. District Road Engineers report that the DRCs pay very close attention to the progress and completion of works under the work programs. When the KRB Act was passed, some reservations were raised about the composition of the DRCs, but the general impression has been that they have worked well and the inclusion of the MPs may have very positive side-benefits. The scale of the funding for rural roads, however, remains a

problem, as does the organizational responsibilities for organizing and managing the works.

To correct some of these situations, the mission of the KRB's Infrastructure Maintenance Programme should be to deliver economic benefits to the community via savings in vehicle operating costs by providing improved ride quality of pavements. This will lower fuel and oil consumption, vehicle maintenance costs, tyre wear and vehicle depreciation.

In allocating maintenance funds, the KRB should give priority to programmes that:

- Achieve the best overall return on maintenance investment (given that smoother roads cost more to provide but offer savings to vehicle operators)
- Provide community-wide benefits by reducing accidents and travel time
- Reduce environmental impact of road infrastructure
-

4.2.2 Promoting Public Private Investments /Privatization

Starting in the mid-1980s there has been an increasing effort to move towards PPI—including privatization and full cost recovery for public inputs—as opposed to emphasizing government provision, as was the case in 1963–1984. Widespread adoption of an economic development paradigm based on policies to strengthen market forces, increase competition and refocus the role of the state has heightened the importance of private sector development. These efforts focus on macroeconomic stability (fiscal and monetary reform); creating incentives for efficient production (trade, exchange rate and price reform); promoting deregulation and competition; and improving the legal, judicial and regulatory environments.

However, Kenya's roads policy blueprints do not provide fundamental initiatives for attracting PPI in the roads subsector. Addressing issues and providing incentives in areas such as land acquisition and utility removal (including right of way to concessionaires free from all encumbrances), specific proportions on capital grant for project cost, and tax exemptions and relief in general and on modern high-capacity equipment for highway construction.

Measures to encourage and exploit private participation opportunities in Kenya's transport sector are important. Towards this end, the government should:

- Identify road segments for concessioning
- Commission a study on their market and traffic viability seeking to evaluate existing traffic flow and forecast future traffic volumes in the earmarked road segments.
- Consider the immediate fiscal costs of planned concessions
- Give clearer and credible signals given on the timing of the transactions,
- Involve potential private investors more in consultation and information sharing
- Facilitate linkages across transport modes to encourage use of alternative modes of transport to maximize economic benefits,
- Develop brokerage markets to improve capacity utilization, and;
- Promote optimization of all transportation modes.

The role of government in the exploitation of PPI opportunities for the in the road sector are threefold: -

a) To define the privatization strategy and review the existing legal framework, identify suitable investors, supervise the bidding process, and assist in negotiations and transaction closing; comparison of the benefits and the limitations of fixed-term concessions.
b) To ensure that the loss of toll revenues from the concessioned network does not adversely affect KRB's capacity for effective maintenance of the remaining network. In relation to local authorities, there is need to clarify issues on the autonomy of municipalities in negotiating concessions and the regulatory jurisdiction over them, as well as to clarify access and inter-linkage issues with respect to national and municipal roads. As a start, local authorities should upgrade their traffic management efforts and enforce the traffic code to stop trailers and multi-tonnage trucks from using residential access roads subsequently damaging them and the drainage systems. Regulations on use of roads by traffic should be enforced in parallel with timely maintenance of the road network.
c) To develop clear policy incentives are necessary for attracting foreign and private investment. These may include:
    - Government commitment to carry out all preparatory work including land acquisition and utility removal. Rights of way free from all encumbrances may be made available to concessionaires
    - A national highway agency (say KRB) may pledge to provide a specific fraction of the project's capital grant (this is up to 40% in India) to enhance viability
    - Tax exemption for a specific period
    - A clearly defined allowable concession period
    - Provision for foreign direct investment of up to 100% for equity partners in construction of roads and bridges
    - A clear legislative framework for arbitration and conciliation
    - Treating housing and real estate developments that are integral to highway projects as infrastructure and extending tax benefits to them
    - Allowing the national highway agency (maybe KRB) to participate in equity in BOT projects up to a predetermined proportion of total investment
    - Duty-free importation of modern, high-capacity equipment for highway construction
    -

The proposed privatization and private sector participation in the transport sector seeks to: -

i) reduce the role of the public in the day-to-day management of Kenya's primary transport network
ii) increase the resource flow to the sector by encouraging private investment and
iii) empower the private sector to manage the network.

4.3 Regulation

There is need to define roles and introduce appropriate regulations to protect both the public and the private investors: The public sector retains core functions for all modes but rather different functions to those presently exercised:

A) Public Funding:
The need for public funding in the transport sector will remain critically important, and a substantial increase in funding will be needed if the main road network is to be brought back to competitive standards

B) Contract management:
The public sector already awards many contracts in the transport sector but, particularly in the road sector, the contracts will be very different to those traditionally awarded, and will require management over a very much longer period.

C) Concession monitoring:
The public sector will retain ownership of all infrastructure assets, even under concession arrangements. The public sector will need to ensure that the terms of the agreement are being followed, to monitor the maintenance of the public assets, to make certain that safety standards are being kept, and assess whether the specified performance targets are being reached.

All these functions are critical to the success of the transport sector, but they do not involve the provision of services, or the employment of large numbers of workers or the marketing roles of a transport enterprise. These functions can be left to the private sector.

The impetus for moving to the private sector is to achieve higher service standards, at lower costs, through more effective management and the better use of resources. The motivation of the private sector is profit. Unless the private sector can generate adequate profits, it will not be interested in taking concessions or long-term maintenance contracts. Profits may eventually be substantial as the risks of running a railway concession are high and considerable up-front investment may be necessary. All the likely concessions are monopolies and the concessionaires will enjoy some degree of monopoly power:

- KR: A vertically integrated railway concession, without open access is proposed, but the monopoly power of the railway is low, as road transport is a strong competitor. However, there may be traffics, which are effectively captive to railways.
- KAA: JKIA has an effective monopoly as neither Eldoret or Mombasa are adequate substitutes. A concessionaire could exploit this monopoly and raise airport charges for both freight and passengers.
- KPA: It is probable that the container terminal will have a monopoly, especially is GoK wants private investment to eventually extend facility. Dar-es-salaam is a competitor for some transit traffics but not for Kenyan overseas trade. The marine services company will have a monopoly of tugs, and the oil jetty company will have a monopoly for oil movement through the port.
- Northern Corridor Road Concession: On the Nairobi-Mombasa section, alternative routes require a substantial detour and the concessionaire will have significant monopoly power. There are closer substitutes from Nairobi to the Uganda border, but GoK may wish heavy freight vehicles to be concentrated on a single route.

Concession contracts themselves can include initial rates/tariffs and specify the mechanism to adjust charges. However, some form of regulatory authority will be required. Concession agreements, however detailed, are unlikely to be able to cover every circumstance. Technical and safety regulation will also be needed in some sectors, independent of the asset authority. (Certainly this is the case in the railway and civil aviation sectors)

A regulator is certainly required, wherever there are significant monopoly powers or safety issues. A number of regulatory regimes are possible:

- Model regulators - a separate regulator for rail, ports, civil aviation and possibly roads
- Sector regulator - a single regulator to cover the entire transport sector
- Multi-sector regulator that covers the transport sector and some or all of the utility sectors

Each alternative has advantages and disadvantages. But scale is likely to be an important determinant in the choice. Technical regulation of civil aviation will reside with the KCAA, though economic regulation might be appropriately handled by a regulator with wider responsibilities.

While a regulator is not required in the non-concessioned road sector, there is a very definite need for monitoring to ensure that public funds are being cost-effectively used, priorities followed, contractual terms respected, etc. These activities should be central to the work of the Kenya Roads Board and its secretariat. The KRB should be undertaking both financial and technical audits of the road works funded by the Fuel Levy to ensure that value for money is being achieved.

4.4 Introduction of the Transport Licensing Board to address the issues of public transport as well as generate additional revenue for the sector

There is however need to improve and strengthen these efforts. Specifically, there is need to consider the scope for:

- Realizing better service and value from existing resources by bringing in the private sector to build and operate some roads under concession arrangements
- Augmenting revenue mobilization through simplifying or restructuring road-user taxes and charges, or improving revenue administration to reduce tax avoidance, evasion and leakage
- Allocating additional revenue from the government's consolidated budget. As is the case in all fiscal matters, it is necessary to identify opportunities for earning additional revenues and determining their cost, by either taking funds away from other sectors and/or raising clearly identified taxes and charges

4.5 Maintenance, Repair and Rehabilitation of Roads

The need for effective roads development and maintenance policies and works was realized long ago. However the maintenance repair and rehabilitation of roads has been plagued by several challenges:

a) The failure of the policy framework to consider the need to balance the strengthening and rehabilitation of existing assets, on one hand, and the construction of new roads and bridges, improvement of low-grade sections, and widening of roads to

four lanes, on the other. Failures may be attributed to heavy reliance on government funding and technical support for most activities, which means that the projects are not adequately implemented when resources are scarce.

b) poor administration
c) the apparent lack of commitment and political will at the highest policy levels to implement some of the fundamental tenets of the programmes.
d) massive rent seeking, because direct payment of contractors is the primary method for disbursing funds to road agencies.
e) The technical, economic or political justification decision-makers receive on certain new roads vis-à-vis maintenance. Major road projects are comparatively easy to finance internationally. Funding for rural roads, with the exception of roads in tea growing areas, has tended to be neglected because it was difficult to justify in economic terms. (Wasike 2001)

Efforts to address these challenges include: -

4.5.1 Roads 2000 Strategy

Government's efforts include initiatives such as decentralizing development planning and implementing the District Focus Strategy, the rural works programme funded by the RDF, the MRP, and the RTPC programme. The Roads 2000 Strategy is meant to build on the good experience of labour based technologies and address the problem of inadequate road maintenance which minimizes potential benefits of roads and high costs of frequent rehabilitation needed to insure minimal levels of services. It seeks to institutionalize experiences gained in RARP and Minor roads program (MRP). It involves the application of purely labour based methods of low traffic roads; a mixed technology of labour based methods and tractor-towed graders for more heavily used roads; and the use of tractor based equipment in areas where labour is not readily available. Additionally, it is meant to address reform of institutional management systems, manpower rationalization, training and funding.

If Kenya seriously implements the Roads 2000 strategy, very many small works (whether maintenance, partial rehabilitation or spot improvements) will be implemented over an extensive road network. The actual works can still be undertaken by the private sector, not by large contractors, but by small and medium scale enterprises (SME). In planning Roads 2000, shortages of suitable SME contractors was identified as a possible constraint, but not District Road Engineers have found, in recent years, that there are contractors available, and small works are already being increasingly being contracted. Beyond some routine operations, such as vegetation control and culvert cleaning, many of the works may need to be paid on a measured work basis.

4.5.2 Decentralization and Institutional Framework

Apart from the current institutional framework apportioning specific road classes to particular agencies, there is no maintenance policy for Kenya's road networks. As can be seen in the implementation of a program of works such as Roads 2000, maintenance cannot be either planned or monitored at the central level. Management of the rural road network must be devolved to a more appropriate level, at which the needs and priorities of the local economy and population are better understood.

The country has made strides in decentralizing road delivery. However, it has failed to increase road revenue and improve maintenance. This has been attributed to several factors, key among them being the lack of fiscal decentralization, accountability,

transparency, and good governance. Decentralizing road provision has had mixed success. For instance, political interests have overshadowed the development agenda in the DDCs that fall under the DFRD strategy to the extent that 'people's involvement is almost non-existent. The allocation of development funds is still largely centralized, and the central government has continued to control the districts through the financial purse.

To improve road maintenance, the policies should aim at the following in order to reduce maintenance costs arising due to heavy vehicles in road traffic by:

- Reducing all types of impact of heavy vehicles on road networks, including deterioration in road condition, safety and environmental conditions
- Improving road freight productivity through reforms in policy on vehicle size and weight
- Quantifying the potential benefits of 'road-friendly' vehicle suspensions in extending pavement life and reducing maintenance costs for trucks
- Taking greater account of the effects of heavy vehicles on pavements and bridges in choosing design methods for the construction of new infrastructure

It is imperative that Kenya develops a national (and/or district) road asset management strategy as a road maintenance policy. The strategy can be developed from the collective or individual consideration of the following:

- The strategy's objectives, which describe the outcomes being sought through the supply and operation of the road infrastructure system
- A time scale for implementing the strategy
- System performance measures (annual and long-term targets)
- Physical condition standards to be achieved (noting annual and long-term targets)
- Procedures for monitoring and reviewing the system's performance and physical condition
- Policy and legislative controls on the use of the system
- Maintenance standards (warning levels, intervention levels and minimum levels)
- Financial implications of the management strategy to the KRB (in terms of the annual budget demand), the community (in terms of capital equity in the road asset), and road users and other affected members of the community (in terms of vehicle operating costs and transport efficiency)
- The sensitivity of the strategy's outcomes and outputs to the level of resources allocated, ensuring a clear indication of procedures for establishing priorities at sub optimal resource levels (Wasike, 2001)

4.5.3 Local Government Reform

Part of the reforms that significantly affect transport services delivery as well as infrastructure development include the local government reforms. The introduction of the Local Authorities Service Delivery Action Planning process has introduced a more responsive system to deliver services including transport to the poor people. The local communities are involved in prioritizing issues and influencing the allocation of resources to these projects. Further this enhances community audit of project Implementation of local authority projects

4.6 Encouraging Multimodal Transportation Models

It is important to consider other transportation models to minimize automobile dependency, which is characterized by high levels of per capita automobile travel, automobile-oriented land-use patterns, and just a few transport alternatives. The formulation and full implementation of a national transport policy may result in private vehicle users paying for the ecological, social and economic costs of motoring and may provide an impetus for a better balance between transport options for Kenya. Mode substitution and inter-mode complementarity should be part of the solution for making roads and road transport economically and environmentally sustainable

The national development plans have increasingly paid attention to other modes of transport including non-motorised transport. These have been backed by waiver of import duties on bicycle imports to aid the mobility of poor people.

4.7 Integrated Transport Policy

Kenya needs an integrated transport policy, which would act exactly on the positive interaction effects, and positive cross-externalities that the different fields characterizing rural and urban settings generate. At the same time, countervailing policies would be promulgated to overshadow the negative aspects and the social costs associated with the interaction effects.

Judiciously integrated transport policy interventions would reinforce each other and either avoid or limit adverse side effects of a given policy. For instance, mixing measures to control private transport modes in urban centres and improved public transport policy increases the effectiveness of transit improvements. Controlling private cars in urban centres without improving the efficiency of public transport would have major negative effects on the mobility of people, and make the impact on car drivers unpleasant.

To promote positive impact and generate cumulative positive cross-externalities within the road sector, short- and long-term integrated transportation policies are necessary in four fields: transport and land-use planning, transport and environmental policies, transport and telecommunications, and transport and local public finance. The policy interventions are necessary in infrastructure development, and in ensuring the quality, reliability and attractiveness of various transport services.

Kenya's transportation policy must respond to the needs of the 'new economy' (which is global, rapidly changing, and customer focused), the desire for greater environmental sustainability, a demand for a good quality of life, the public's expectations for greater involvement in decision-making on transportation, and the need for technologies and expertise not traditionally associated with highway engineers. Meeting all these expectations requires a systems approach that includes sensitivity and responsiveness to the context (social, economic, environmental, and technological) in which transportation takes place. The policy should address five facets for strategic focus on transport policy:

4.7.1 Evaluating impacts and problems

To appreciate the true value of road policy shifts, with an understanding of the impact of transportation is vital. The society needs accurate accounting of all benefits and costs of alternatives considered when making transportation policy and investment choices. A comprehensive analysis of benefits and costs would answer questions such as, what are the full costs of an increase in

motor vehicle travel? and, what are the full benefits of a management strategy for transportation demand?

There is need for a 'Kenya transportation cost analysis model' that it is regularly updated as new information becomes available. It could be developed as an overview to costing theory, a detailed reference for the various costs, and a guide for applying comprehensive economic analysis to specific transportation decisions. Such a model would constitute a bridge between theoretical research application and real-world transportation planning and policy decisions (Wasike 2001)

4.7.2 Road tolls and price reforms

An efficient market provides consumers with competitive choices for goods and services, and is economically neutral (that is, public policies do not favour one option over others). The Kenya road transport sector, like road transportation markets in most economies, does not satisfy these criteria. Economic inefficiency and inequity are engendered by the fact that many costs of vehicle use are external, and a significant portion of the charges paid by users are fixed and therefore not marginal. Reforming the payment methods for motor vehicle travel, therefore, is a key strategy for managing transportation demand. It is important to examine the numerous distortions in current transportation markets that result in inefficient, excessive and inequitable transportation choices, and to determine costly market failures. Issues/areas for consideration/exploration area would include:

- The impact on vehicle travel of implementing distance-based vehicle insurance whereby vehicle insurance premiums are determined by prorating vehicle mileage? Based on the principle of paying more if you drive more, which reflects a vehicle's insurance compensation costs more accurately.
- Why is it that parking and road requirements tend to be excessive? What are the costs that result? And how do we implement more efficient parking and roadway policies? E.g. how do we address the distortions arising from the abundance of free parking, which results in part from zoning laws with excessive parking requirements?

These issues could be addressed through research and analysis on road transportation market distortions, using road-pricing revenue for economic efficiency and equity considerations, and distance-based charges as optimal vehicle pricing.

4.7.3 Road MR&R

Much of the nation's road network is in need of major repair or rehabilitation. To optimize MR&R, all Kenya's road agencies need to i) streamline the entire project delivery process, including planning, environmental review, design, construction, and procurement procedures; ii) improve the quality of renewed facilities, including lengthening facility life and reducing lifecycle cost; and iii) moot ways of increasing road funding. Supplementing asset management concepts and tools with the necessary data and performance models and using the opportunity of renewing aging highways to improve their safety, design, performance, interaction with the environment, and role in the community would result in improved facility and system performance, and reduced user and lifecycle costs.

The policy should explore MR&R areas such as construction methods, innovative construction materials, non-destructive evaluation technologies, innovative contracting and finance, traffic management alternatives during construction, work zone safety, environmental-mitigation techniques, lifecycle cost analysis,

development of evaluation measures for performance-related specifications, collection and analysis of data and development of predictive performance models to support asset management, development of renewal approaches that improve or restore the quality of urban life, and projected trends in vehicle design and their impact on road design(Wasike 2001).

4.7.4 Road Safety

New approaches are needed to respond to public demand for safe highways. Comparatively straightforward solutions have already been implemented and have resulted in tremendous progress over the last few decades. In order to significantly reduce the current toll of more than 3,000 lives per year and reduce the number of accidents, the transport policy should address issues of human behaviour; enforcement of limits; the interaction among vehicle, the driver, and the road; encourage and create infrastructure for alternative modes of transport so as to minimize conflict over roads space and use of more advanced technologies for policing the road transport regulatory framework.

Possible policy and research areas include on special populations (older, new, and impaired drivers; immigrant populations); road designs that promote safety; better access and protection for cyclists and pedestrians; database development, data collection and analysis related to crash causes and the impact of design on safety; tools for data collection, such as event data recorders; a special study to investigate crash causation; development of standards or strategies for safety-centred design; the effectiveness and best use of automated systems for enforcing road regulations; interaction between the vehicle and the infrastructure (Wasike 2001).

4.7.5 Institutional issues

Kenya's general road policy framework has, the absence of an integrated policy for developing transport infrastructure as a main weakness. This has tended to encourage compartmentalization of road sector strategies, invariably failing to exploit wide synergies, positive cross-externalities in different fields, and the advantages of cooperation between different government and non-government agencies. There is need to rethink roles, responsibilities, and institutional structures; identify educational requirements for future transportation professionals; address workforce issues such as recruitment, training, and retention; develop new ways of managing highway activities, including financing strategies that better leverage public funds and procurement methods that promote faster and higher quality construction, rehabilitation, and maintenance; and streamline approval processes with resource agencies.

Future policy initiatives should address the questions of integrated transportation, funding, commercialization, sharing and disbursement of road funds, vehicle weight and size, MR&R through fiscal decentralization and road asset management, and private sector participation. Further research should be carried out to inform Kenya's future strategic policy directions, which imposes a broadening set of performance demands on the roads system

5.0 An Agenda for Action

World Bank 2003 in its draft country strategy paper observes that while it has taken time for Kenya's transport system to move its present condition, and the situation will not be easily reversed. While the economy and general population have suffered from the present arrangements and policies, vested interests have benefited substantially - whether these be suppliers, the purchasers or surplus land, contractors, civil servants or politicians. Perhaps the first and certainly the most important requirement to reverse the deterioration in the transport sector is a very major change in the philosophic approach of politicians to the sector. They have to start to treat infrastructure as integral to the economic rather that the political process. Beyond this overarching change in approach, the following should be considered as the steps necessary to implement the strategy.

5.1 Immediate Actions:

- Transfer the KAA from the office of the President to the Ministry of Transport and Communications, publish the accounts, and commission an advisor to prepare the basis for concessioning the international airports
- Commission a transaction adviser to assist with the concessioning of the Mombasa container terminal, the dockyard and marine craft, and the bulk oil terminals
- Take the decision to transfer management of the main road network to the private sector, monitored by the public sector
- Require the implementation of the existing Ministry of Finance regulation that all Fuel Levy funded road contracts are supervised by independent project managers/engineers who have professional liability
- Resolve the pending bill issue and transfer the legacy of past mismanagement and excesses form the KRB
- Amend the KRB act to provide adequate funding for the major urban road networks and clarify the respective powers of the KRB and the road implementing agencies
- KRB to prepare and agree with GoK a strategy for the Road Sector, including a prioritized three year rolling road program and expenditure priorities for developing subsequent revisions, to form the basis for action by the road implementing agencies.

5.2 Near Term Actions (1 - 4 Years)

- Sell off the plant and equipment of the Mechanical and technical department retrench all staff except for those required to advice GoK on mechanical issues and find alternative uses for the workshops/ Land
- Complete the concessioning of KR either as a single concession or jointly with Uganda railways. Prepare plans to maximize the value of KR's non-operational land or land that in time could be made non-operational
- Concession the operational activities at the port of Mombasa and transform KPA into landlord port
- Concession the international airports, place the major domestic airports under the management contract and transfer responsibilities for the other airports/airstrips to the local Authorities or tourist interests
- Enact legislation and establish a regulatory framework for the transport sector, preferably located under the ministry of Finance or perhaps the office of the president
- Concession the Northern corridor as a privately funded toll road
- Establish a Kenya Highways agency to manage the lone haul road network and a Rural and Small Towns Agency to supervise road activities on the rest of the network
- Initiate maintenance concessions and long term performance based maintenance contracts for the line haul road network

5.3 Medium-term Actions (5-10years)

- Progressively transfer the management of the entire main road network to private management supervised by the Kenya Highways Agency
- Progressively increase the domestic resource mobilization for the road sector as conditions improve (to fund the increased levels/costs of maintenance)

5.4 Coherence is required in several areas:

Promotion of small scale contracting and use of the informal sector so as to build local capacity for maintenance and create employment. While this has been articulated as a noble goal of the strategy with huge potential for access, mobility and poverty reduction, changes in related legislations and procedures have not occurred. The government needs to revise some of its policies e.g. the procurement policies which are biased towards the large formal private sector companies. A revision to accommodate and facilitate work by small contractors without imposing impossible requirements for this group would go a long way.

5.5 Decentralization of delivery systems

The local government carries out a huge proportion of road infrastructure maintenance. Under the local government reforms the local communities and the poor people are involved in the planning and prioritization process. However implementation is subject to centralized procedures, which was based on large contracts and tends to favour formal contractors. The participation of the local people is then curtailed by the bureaucratic procedures and removes potential benefits in terms of employment and capacity building as well the powers of audit of the works done. The government reforms need to harmonise the policies for maximum impact, contribution and ownership to and from the community.

5.6 Low-Cost Mobility

In terms of mobility, the policy needs to move a step further to providing specific allocations to low-cost modes of transport including walking. Further information is needed for planning for the poor people most of whom walk to their various destinations. There is also need to make policies coherent in this area in efforts to facilitate mobility of poor people. E.g. the waiver of import duties on bicycles should be matched by similar actions on duties and tariffs on spares as well as necessary planning and infrastructure provision.

5.7 Integration Of Transport Issues In Other Sectoral Policies

As shown for the PRSP issues in various sectors, transport is an integral element that needs to be factored in all the other interventions. The national transport policy should seek to integrate concerns and influence the development of other sectoral policies to reduce transport related constraints, which impact on social and economic aspects of the poor people.

The Kenya transport policy thrusts are generally consistently addressed in various policy documents ranging from the Poverty reduction strategy paper, the national development plans and the economic recovery strategy paper without contradiction. The poverty issues are largely implicit in the policies except for the recent efforts in addressing the mobility issues. Efforts should be focused towards strengthening the implementation of the policy as well as fill in the missing gaps. A step in this direction is the efforts to generate a comprehensive transport policy addressing the transport sector in whole rather than in subsectors. It is also hoped that the current efforts to revise the procurement procedures will take into account the small-scale contractors and thus enhance poor people's participation in delivery of transport services. A crucial element would be to establish ways of monitoring transport's contribution to poverty reduction. Having been identified as one of the PRSP priority sectors, efforts need top be made to include transport-related indicators (in form of mobility, access, etc) as part of the poverty monitoring indices.