



REPUBLIC OF KENYA

**MINISTRY OF TRANSPORT**

**SESSIONAL PAPER  
ON**

**INTEGRATED NATIONAL TRANSPORT POLICY**

November 2010

*.....Transport for Prosperity.....*

## LIST OF ACRONYMS

AGOA	African Growth and Opportunity Act
ATMP	Air Transport Master Plan
AU	African Union
AFI	African and Indian Ocean Region Air Navigation Plan
BASA(s)	Bilateral Air Services Agreement(s)
ASAL(s)	Semi Arid Land (s)
BOO	Build Own and Operate
BOT	Build Operate and Transfer
CBS	Community Based System
C/F	Clearing and Forwarding
CDO	Central Documents Office
CID	Criminal Investigations Department
CIF	Cost Insurance, and Freight
CNS/ATM	Communication, Navigation Surveillance/Air Traffic Management
COMESA	Common Market for Eastern and Southern Africa
CRS	Computer Reservation System
DCA	Directorate of Civil Aviation
DoT	Department of Transport
DRC	Democratic Republic of Congo
DSIs	Data Sharing Institutions
EAC	East African Community
EARC	East African Railways Corporation
ECA	Economic Commission for Africa
EEZ	Exclusive Economic Zone
EMCA	Environment Management and Coordination Act
EPZ	Export Processing Zone
ERS	Economic Recovery Strategy for Wealth and Employment Creation 2003-2007
FAA	Federal Aviation Administration
FOB	Free on Board
FTZ	Free Trade Zone
GATS	General Agreement in Trade and Services
GATT	General Agreement in Trade and Tariffs
GBCP	Gravelling, Bridging and Culverting Programme
GDP	Gross Domestic Product
GHGs	Greenhouse Gas emissions
GoK	Government of Kenya
HGV(s)	Heavy Goods Vehicle(s)
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IAPH	International Association of Ports & Harbours
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
ICC	International Chamber of Commerce
ICD(s)	Inland Container Depot(s)
ICT(s)	Information and Communication Technologies
IGAD	Inter-Governmental Authority for Development
IGPCC	Intergovernmental Panel on Climate Change
IMO	International Maritime Organisation
IMT	Intermediate Means of Transport
INCOTERMS	International Commercial Terms
INTP	Integrated National Transport Policy
ISPS	International Ship and Port Security Code
ITMP	Integrated Transport Master Plan

IWTMP	Inland Water Transport Master Plan
JIT	Just In Time
JKIA	Jomo Kenyatta International Airport
CAA	Kenya Airports Authority
KAAS	Kenya Association of Air Operators
KATO	Kenya Association of Tour Operators
KCAA	Kenya Civil Aviation Authority
KeNHA	Kenya National Highways Authority
KeRRA	Kenya Rural Roads Authority
KFSL	Kenya Ferry Services Limited
KMA	Kenya Maritime Authority
KNSL	Kenya National Shipping Line
KPA	Kenya Ports Authority
KPC	Kenya Pipeline Company
KRA	Kenya Revenue Authority
KRB	Kenya Roads Board
KRC	Kenya Railways Corporation
KURA	Kenya Urban Roads Authority
KWS	Kenya Wildlife Services
LATF	Local Authority Transfer Fund
LV	Lake Victoria
MMF	Mass Media Fora
MTA	Metropolitan Transport Authority
MDGs	Millennium Development Goals
MoE	Ministry of Energy
MoF	Ministry of Finance
MoLG	Ministry of Local Government
MoR	Ministry of Roads
MoT	Ministry of Transport
MPD	Metropolitan Police Department
MRP	Minor Roads Programme
MT	Motorised Transport
TIMS	National Traffic Information System
NAVAIDS	Navigational Aids
NCTTA	Northern Corridor Transit Transport Authority
NEMA	National Environmental Management Authority
NEPAD	New Partnership for African Development
NIC	Newly Industrialised Country
NICs	Newly Industrialised Countries
NMIMT	Non-Motorized and Intermediate Means of Transport
NMTs	Non-Motorized Means of Transport
NPEP	National Poverty Eradication Plan
NTISS	National Transport Information Support Service
NVOCC	Non-Vessel Operating Common Carrier
OOW	Officer in Charge of the National Watch
OOP	Office of the President
PRSP	Poverty Reduction Strategy Paper
PSC	Port State Control
PSO(s)	Public Service Obligation(s)
RARP	Rural Access Roads Programme
RaTMP	Rail Transport Master Plan
RDA	Railway Development Authority
ROA	Railway Operating Agency

RTG	Rubber Tired Gantries
RTMP	Road Transport Master Plan
RVR	Rift Valley Railway
SADC	Southern Africa Development Community
SAR	Search and Rescue
SARP(s)	Standards and Recommended Practices
SARS	Severe Acute Respiratory Syndrome
SIDS	Small Island Developing States
SMME(s)	Small, Medium and Micro Enterprises
SOLAS	Safety of Life at Sea
SSG(s)	Ship to Shore Gantry (s)
STCW	Standards of Training, Certification, and Watch Keeping for Seafarers
SUA	Suppression of Unlawful Acts against ships
TAMS	Total Airport Management System
TEU	Twenty foot Equivalent Unit
TIMS	Transport Integrated Management System
TLB	Transport Licensing Board
TRC	Tanzania Railways Corporation
TSP	Total Suspended Particles
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value Added Tax
VOCs	Vehicle Operating Costs
WHO	World Health Organisation
WTO	World Trade Organisation
YD	Yamoussoukro Decision/Declaration

## FOREWORD

The Government of Kenya recognizes transport sector as one of the critical enablers in achieving Vision 2030. An appropriate Integrated National Transport Policy (INTP) is the prerequisite towards attaining a world class transport system that is responsive to the needs of the people and the industry. The INTP will enhance Kenya's development in terms of integrating production, marketing and population centres, hence facilitating mobility in rural and urban areas; national and regional integration; trade promotions, improving the overall welfare of the people and Kenya's competitiveness.

The Policy Paper, whose theme is "Transport for Prosperity", identifies a number of challenges inhibiting the transport sector from performing optimally its facilitative role in respect of national and regional economies. These challenges will be addressed through integration of transport infrastructure and operations as well as responding to market needs of transport. Other interventions will include the enhancement of transport services and quality, consumer protection, catering for consumers with special needs, ensuring fair competition, use and integration of information and communication technologies in transport development and operations.

There is need to eliminate impediments to development and use of non-motorized and intermediate means of transport in order to enhance transport safety and security, develop and maintain a safe and secure transport system, sustainable utilization of the environment, integration of meteorological information as well as development of the requisite human capacity.

It is my sincere hope that all future investments in the transport sector will be in tandem with this Policy and the country's long term vision.

Hon. Amos Kimunya, E.G.H, M.P.

**MINISTER FOR TRANSPORT**

Date: .....

## EXECUTIVE SUMMARY

As we implement Kenya's Long Term Development Strategy, Vision 2030 Kenya is looking to the future with the aim of consolidating, enhancing and sustaining the gains of the *Economic Recovery Strategy for Wealth and Employment Creation 2003-2007* (ERS). The transport sector is recognized as a key pillar and a critical enabler in the achievement of this strategy. It will be important not only in improving the competitiveness of products from Kenya and the region, but also serve as a significant basis upon which the economic, social and political pillars of this long term development strategy will be built. Further, the sector is expected to remain a key component in achieving the Millennium Development Goals (MDGs).

Given this envisaged economic development and subsequent sustained growth, in the context of changing population and land use patterns, a competitive regional and global economy, strategic nation building considerations and new market development, it is apparent that the task of transport sector will be highly complex and demanding.

To enable the transport sector effectively play its role in this scenario, the Ministry of Transport launched the National Transport Policy Committee on 2<sup>nd</sup> April 2003. Its sole mandate was to formulate an Integrated National Transport Policy. The process was conducted on a consultative basis punctuated with modelling of solutions based on international best practice to bridge the gap between local challenges and planned interventions.

## CURRENT AND FUTURE CHALLENGES FOR THE TRANSPORT SECTOR

This Sessional Paper, on Integrated National Transport Policy, identifies a number of challenges inhibiting the transport sector from performing its facilitative role in respect of national and regional economies.

### CHALLENGES IN THE TRANSPORT SECTOR

- Poor Quality of Transport Services
- Inappropriate Modal Split
- Unexploited Regional Role of the Transport System
- Transport System Not Fully Integrated
- Urban Environmental Pollution
- Lack of an Urban/rural Transport Policy
- Institutional Deficiencies
- Inadequate human resource capacity
- Lack of a Vision for the Transport Sector

To address these challenges, interventions leading to enhanced transport sector performance will be pursued. These include:

- Integration of transport with national development priorities,
- Increasing investment in transport infrastructure and operations,
- Responding to market needs of transport.

Other interventions will revolve around the enhancement of transport services and quality, consumer protection, catering for consumers with special needs, ensuring fair competition and integrating information and communication technologies in transport development and operations.

There is need to address challenges facing:- development of non-motorised and intermediate means of transport; transport safety and security, sustainable utilisation of the environment, integration of transport and land use planning, and appropriate use of weather and climate information as well as development of the requisite human resource capacities.

## **FOUNDATIONS FOR THE COMPREHENSIVE TRANSPORT SECTOR REFORM**

To deal with the challenges and demands faced by the transport sector in Kenya, a new strategic direction will have to be adopted. The vision and mission for this new direction, as well as the strategic objectives are set out in this Sessional paper includes:

- Fostering national and regional economic integration and trade facilitation;
- Establishing appropriate institutional systems;
- Developing and maintaining an integrated and coordinated transport system;
- Developing appropriate funding/financing mechanisms;
- Integrating transport and land use planning and management systems;
- Delivering efficient and effective sector operations;
- Enhancing investments in the transport sector;
- ICT application in the transport system;
- Incorporating environmental protection and resource conservation issues in transport sector activities.

In addition, the policy endeavours to ensure enforcement and compliance with sector laws and regulations; develop a national transport information database; enhance public awareness; improve safety and security; develop and promote appropriate human resource capacities in the sector; and facilitate public private partnerships.

## **VISION AND MISSION FOR THE INTEGRATED NATIONAL TRANSPORT POLICY**

### **VISION**

“A world-class integrated transport system responsive to the needs of people and industry”

### **MISSION**

“To develop, operate and maintain an efficient, cost effective, safe, secure and integrated transport system that links the transport policy with other sectoral policies, in order to achieve national and international development objectives in a socially, economically and environmentally sustainable manner”.

### **HIGHLIGHTS OF THE POLICY PRINCIPLES**

- Clarification of the roles of the national and county governments, statutory bodies, non-governmental bodies, and the private sector in the delivery and management of transport infrastructure and services
- User pays and polluter pays principles to facilitate economic efficiency, generation of sufficient revenues to support development, operation and maintenance of transport infrastructure and services, eliminate distortions user choice of transport modes, eliminate to the extent possible externalities in

- production and consumption e.g. pollution and congestion
- Stakeholder consultation in setting of tariffs and other prices
- Financing of economic infrastructure through user charging or cost recovery from direct users
- Financing of social and strategic infrastructure through subsidisation on a declining basis over time
- Institutionalisation of Regulatory Impact Analysis to enable implementation of regulatory proposals
- Encourage competitive practices in the transport sector.
- Establishment of Industry Codes of Conduct and Client Service Charters to enhance service delivery in the transport sector.

A key feature of this proposed reorganisation is fidelity to the maxim of separating policy making, regulation and service provision roles in the transport sector. This enables clarification of public and private sector roles. It also enhances avenues for private sector participation, while strengthening the role of the public sector as a facilitator and guarantor of the public interest in the transport sector.

In pricing transport and operations, the policy has adopted the **User Pays Principle; Polluter Pays Principle; and Stakeholder Consultation Principle** to deal with the problems of economic inefficiency; inadequate revenues to develop, operate and maintain transport infrastructure and services; and avoid creation of distortions in users' choice of mode of transport as well as pollution and congestion.

It is recognised that for infrastructure and operations to provide measurable economic or financial returns, user charges or cost recovery from direct users will be applied as far as possible. Social and strategic infrastructure and operations that cannot be financed through user charges will be financed in a transparent manner through appropriations, grants or subsidies to achieve an equitable distribution of resources. In the longer term, the national and county governments will seek a reduction in the subsidisation of transport operations, predicated on a more effective and efficient public transport system being developed.

Given the new role for the public sector, a number of regulatory options are discussed including regulation of specific services provided under contract, regulation of monopolies, regulations of competing operators, and regulation by contract. There is need to **institutionalise regulatory impact analysis** to address, amongst other things, regulatory proposal clarity, risk assessment, impacts of regulation on stakeholders, alternatives to the proposals, enforcement issues and the equity and fairness of each proposal. In addition, they will ensure that monitoring and evaluation of regulatory policy proposals are undertaken on a continuous basis.

The Sessional Paper also provides for establishment of **Codes of Conduct** to facilitate self-regulation and discipline in the transport industry. To enhance service delivery in the industry, institutions will be required to establish **Client Service Charters** specifying inter alia expected service delivery benchmarks and consumer complaints and redress procedures. Additionally, general measures aimed at improving the human resource and acquiring technology for ensuring sector growth and sustainability are discussed.

## **ELEMENTS OF THE NEW FRAMEWORK FOR TRANSPORT SECTOR MANAGEMENT**

- Consolidation of Transport Functions under one Ministry, and separation of Policy Making, Regulatory and Service Provision Functions
- Establishment of the Department of Transport
- Enhancing the Role of the Private Sector in Transport Infrastructure Development and Management
- Integration of Non-Motorised and Intermediate Means of Transport into the Transport Systems
- Consolidation of Urban Public Transport



## A NEW FRAMEWORK FOR TRANSPORT SECTOR MANAGEMENT

The analysis shows that the transport sector as currently organised is unable to address the investment, service quality, safety and security needs of the envisaged integrated transport system aimed at setting up Kenya as the transport hub for the East and Central African region amongst other goals. In this regard, the policy envisage a new look transport sector, whose key functions are coalesced into one ministry, under the **Department of Transport (DoT)**. The other key plank of the policy proposals is that of securing integrated transport infrastructure and service provision. Thus, the envisaged DoT is mandated to develop an Integrated Transport Master Plan encompassing all modes. Further, it is anticipated that **County Transport Plans** based on partnerships between stakeholders take into account local transport needs and linkages with other sectors.

The policy recognises the importance of Non-Motorised and Intermediate Means of Transport (NMIMT) in addressing the needs of the poor as well as in promoting the health of the population. In this regard, integration of NMIMT in the design, development and operation of all modes of transport is recommended. Other measures are proposed to promote the development and use of NMIMT vehicles. The sum total of these measures will be an enhanced role for NMIMT in urban and rural areas.

## PROMOTION OF NMIMT IN THE TRANSPORT SYSTEM

- Harmonisation of NMIMT and their concomitant infrastructure into technical, legal and institutional mandates of transport agencies, so that they can effectively play a complementary role to other transport modes.
- Incorporate NMIMT in the urban and rural road network including provision of incentives to support local manufacture of NMIMT vehicles.
- Provision of appropriate basic road infrastructure, furniture and other amenities including pedestrian crossing, walkways, footbridges and other facilities for NMIMT.
- Establish appropriate curricular for training NMIMT operators on proper transport infrastructure and proper maintenance of vehicles and to facilitate positive behaviour change on roads.
- Register and regulate NMIMT vehicles and brand animals with county government for purposes of identification in case of an accident.
- Establish standards and specifications for NMIMT, their registration and branding animals used for transport and develop a system for regulating their use.

The need to achieve an appropriate modal balance in the sector is recognised in this policy document. Thus, measures are proposed to ensure that the most appropriate mode of transport is applied. For instance, the current freight modal share between road and rail transport is targeted for redress in favour of rail transport. The other aspect relates to the modal split between public and private transport in urban areas. The policy proposes measures aimed at "**Consolidation of Urban Public Transport**", through encouraging a shift to high occupancy vehicles amongst other measures.

In light of the poor safety and security record of the transport sector in Kenya, and in the context of global events, policy proposals have been identified to develop sub-sector and transport wide measures to address the issues of transport safety and security. A key intervention of these policy proposals in this regard is the formation of the National Transport Safety Board. Sub-sector measures proposed include the development of a **Comprehensive National Aviation Safety and Security Programme, an Integrated Road Safety and Security Programme**, domestication of the International Ship and Port Security Code amongst others. Other proposals include incorporation of transport research, health aspects of transport, and ICT into the transport sector to enhance performance of the sector.

Funding of the transport sector has been a major challenge. The policy envisages a revision of the tax regime to facilitate balanced development of the sector. It also recognises new innovative approaches to fund transport infrastructure development and transport operations such as **Build Own Operate and Transfer (BOOT)**

**Models, Joint Ventures between the Public and Private Sectors, and Dedicated Infrastructure Agencies** amongst others. The policy proposes a “**Transport Industry Training Levy**”, to help fund human resource development for the transport sector.

## **IMPLEMENTATION OF THE POLICY**

Key to achieving the vision and mission set out in the Policy, is the setting up of an “*Interim Implementation Team*”, comprising the public and private sectors to guide the initial stages of implementing the policy.

It is recognised that stakeholder participation accompanied by leadership from the Ministry of Transport will form a solid foundation for successful implementation of the policy proposals. The time-frame for these proposals is 15 years, with intervening short and medium term phases. The need to continuously monitor and review policy implementation is emphasised as one of the building blocks in implementation.

## **BENEFITS OF POLICY**

Successful implementation of the policy proposals contained in this report is expected to yield a number of short, medium and long term benefits.

In the short term it is expected that there will be maximum utilisation of existing facilities, development of a facilitative legal, institutional and regulatory framework for the sector, and efficiency in transport project investment.

In the medium term it is anticipated that the building blocks for integrating transport with the economy, enhancing transport safety and security and expansion of capacity in the transport sector will have been laid.

The long term benefits will see expanded transport sector capacity at all levels, an improved regional and intermodal transport balance, strengthened multi-modalism in the transport sector and application of innovative transport techniques for improved transport sector performance. The sum total of these interventions will be an enhanced transport sector contribution to the economy and the region.

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# CHAPTER ONE: STATE OF THE TRANSPORT SECTOR IN KENYA

## DEFINING THE TRANSPORT SECTOR

- 1 An efficient transport system is an important prerequisite for facilitating national and regional integration, promoting trade, economic development, contributing to poverty reduction and wealth creation and the achievement of the objectives of Vision 2030 and beyond. In Kenya, the transport sector consists of the following modes:-
  - Road transport
  - Rail transport
  - Maritime and inland water transport
  - Pipeline transport
  - Air transport and
  - Non-Motorised and Intermediate Means of Transport (NMIMT).
- 2 This policy covers key challenges related to transport infrastructure planning, development and management, legal, institutional and regulatory framework for the sector, safety and security, funding, gender mainstreaming, utilisation of Information and Communication Technology (ICT), and environmental considerations, among others. Its aim is to provide a policy that is conducive to the stimulation of rapid development and efficient management of a safe, widely accessible transport system that responds to modern technological advancement in a rapidly changing and globalized environment.

## OVERALL PERFORMANCE OF THE TRANSPORT SECTOR

- 3 Over the period 1960-2000, the transport sector grew at an average annual rate of 5.5% compared to 4.09 % for the overall economy. This increase during the period was due mainly to substantial external resources comprising external borrowing and grants. During the period 2002-2006, the contribution of transport and storage to GDP fluctuated upwards from 1.6% in 2002 to 7.3% of total GDP in 2004. The sector's contribution to GDP averaged 7.6% per annum with very little fluctuation between 2004 and 2008. For the sector to have significant impact to the country's long term development, this percentage should be around 10% of GDP in line with the vision 2030.

## ROAD TRANSPORT

- 4 Historically, the road network was developed as a subsidiary of the railway system up to the time of Kenya's independence in 1963. Railways were developed for the transportation of bulk commodities and passengers over long distances. Roads were used as a link between the railways and the European-owned large scale farming areas. Little or no interest was accorded to rural areas where subsistence farming was practiced by Africans. Since independence, measures taken by the government to develop and maintain roads include:
  - Selective bituminization of heavily trafficked trunk and primary roads and upgrading of priority earth roads to gravel standards in the late 1960's and early 1970's;
  - Development of Special Purpose Roads to serve specific areas of economic activities e.g. roads serving areas where main cash crops such as tea, coffee, or sugar were grown or roads serving the tourist industry.
  - Construction of farm-to-market rural roads under the Rural Access Roads Programme (RARP) from 1974 to 1986. The purpose of the RARP was to provide access to social and administrative facilities, promote agricultural development and create employment opportunities;
  - Improvement of low-trafficked secondary and minor roads under the Minor Roads Programme



- (MRP) from 1986 to link rural access roads to roads of higher classes;
- Improvement of heavily trafficked secondary and minor roads under the Gravelling, Bridging and Culverting Programme (GBCP) in the 1970's and 1980's.
  - Introduction of public road tolls for road maintenance in 1984/85.
  - Introduction of axle load controls in 1986;
  - Introduction of the fuel levy and transit tolls for road maintenance in 1994 and spot improvement of non-maintainable road sections using a combination of labour and equipment under the Roads 2000 strategy. This was adopted on realization that available financial resources were inadequate to provide full link improvements in the network.
- 5 Kenya has 160,886 km of roads of which 63,290 km are classified while the rest is unclassified. Until recently, the classified roads were under the Ministry of Roads (MoR) while responsibility for unclassified roads fell under the Ministry of Local Government (MoLG), the Kenya Wildlife Service (KWS) and the Forest Department. In July 2007 the government created three key institutions to be responsible for the development, and maintenance of international classified roads, urban roads and rural roads, respectively. Recent surveys indicate that about 50% of the road network is in good condition while the balance requires rehabilitation. Funds for development, rehabilitation and maintenance are inadequate. During the period 1998-2008 output in road transport averaged over 30 % of total output per annum. The sector currently accounts for over 93 % of total domestic freight and passenger traffic.

## URBAN TRANSPORT

- 6 Urbanisation in Kenya has been developing rapidly since independence. During the two inter-censal periods (1969-1989) and the (1989-1999), the rate of growth of urban population increased from 8 % in 1980s to over 34 % in 2003 and is projected to reach over 50% by 2020. The population of Nairobi alone has reached about 3.2 million residents (2009)<sup>1</sup> with a day time population of 4.5 million people. This development has not been met with commensurate growth in urban transport infrastructure and services. In major cities and urban areas, especially in Nairobi, Mombasa, Nakuru, Kisumu and Eldoret, urban transport is still characterized by inadequate supply of public transport (mostly buses and matatus), a large number of cars and Heavy Goods Vehicles (HGVs), heavy traffic congestion during peak hours, and stiff competition for limited road space among motorists, pedestrians and cyclists. Traffic congestion is further manifested in long queues of slow-moving vehicles and long waiting times, particularly in Nairobi and Mombasa. Poor physical planning has led to scarcity of parking space in the CBD, especially in Nairobi.

Because of the inefficiency of urban transport due to poor infrastructure, transport costs are high for both passengers and goods. The majority of low-income urban workers currently find public transport costly and financially inaccessible and hence meet most of their transport needs through walking and head loading. Some of them, however, risk their lives by utilizing non-motorized and intermediate means of transport (NMIMT) (especially bicycles, motorcycles and *mikokoteni* for which there is no appropriate infrastructure. Given that about 50 per cent of the country's total GDP is generated in the urban areas, the adverse consequences of the above scenario on worker's efficiency and productivity, fuel consumption, education, health and the environment cannot be over-emphasized.

## NON-MOTORIZED AND INTERMEDIATE MEANS OF TRANSPORT (NMIMT) FOR RURAL AND URBAN TRANSPORT

- 7 Rural areas are major production zones in Kenya, where many national socio-economic activities are based, especially in agriculture, horticulture, livestock farming and fishing amongst other activities. Indeed, the rural areas hold over 65% of Kenya's population of which over 98% do not own their own motor vehicles. It is estimated that 85% of the movements in the rural areas usually take place off the roads (using tracks and paths) to support rural mobility needs between homes and farms,

1 Kenya National Bureau of Statistics, *Statistical Abstract 2008, Table 9 (e), page 19.*

markets, rivers, meeting grounds, schools, dispensaries, churches, local administrative offices and rural homes. The trips are made on through Non-Motorized and Intermediate Means of Transport (NMIMT) which include walking and head loading, on bicycles, motor cycles, or through animal transport. These journeys facilitate the production of goods and their movement markets and their supply to urban areas. Ideally, inter-urban passenger and freight transport serve rural transport needs. There are therefore peculiar mobility and accessibility needs in respect of rural areas that need to be addressed.

- 8 The government has stated its commitment to the promotion of Intermediate Means of Transport (IMTs) as a strategy for poverty alleviation. It has not, however, vigorously pursued this policy. Considering the critical role NMIMT play in the development of rural and urban transport for both passengers and goods, there is a need to revisit this mode and provide guidelines for promoting its development in along with other transport modes. It will be necessary to define ways in which the NMIMT policy needs to complement other transport modes in both urban and rural areas, including its importance to gender balance, given that the transport burden is borne mostly by women and girls.
- 9 It is estimated that 40% of Nairobi residents walk to their places of work while only about 4% use bicycles to reach their places of work. Bicycle taxis and (more recently) motor cycle taxis - all popularly known as "Boda Boda" are used to carry both goods and passengers in the smaller towns and in rural areas (where the terrain permits) because they are relatively cheaper to use than formal public transport vehicles. In addition to poor road conditions in the urban areas, there is a lack of other road infrastructural facilities like footpaths for pedestrians, lack of separate lanes for cyclists or Non-Motorized Transport modes (NMIMT).
- 10 Past experience shows that transport policies have largely supported motorized transport at the expense of non-motorised transport and have denied the poor and disadvantaged benefits inherent in NMIMT leading to marginalization of NMIMT users in both urban and rural areas.

## **RAILWAY TRANSPORT**

- 11 Railway transport is the second most important mode of transport in Kenya, after road transport, for both freight and passenger services. It is suitable for transporting bulky and heavy commodities over long distances.
- 12 In the early 1970's the East African Railways Corporation (EARC), KRC's predecessor, was the largest public sector enterprise and reputedly one of the best managed. It was the predominant carrier of freight traffic between Mombasa and Nairobi, and almost had a monopoly of long distance traffic into Uganda. Following the collapse (in 1977) of the former East African Community (EAC) under which it operated, each member state became responsible for the railway network and operations within its territory; hence the establishment of KRC in 1978 through an Act of Parliament. It was formed to provide transport services to serve the country and the region. The total railway network currently consists of 2,778 km comprising 1083 km of mainline, 346 km of principle lines, 490 km of minor and branch lines and 859 km of private lines and sidings. Over the last ten years, the railway has not been expanded, with the exception of 38 km of private line.
- 13 KRC has over time experienced financial, technical and operational problems arising from poor corporate governance and inadequate investment. Weaknesses in KRC management within a government-controlled environment became increasingly manifest in the 1980s. Tariffs could not be increased in line with inflation, and asset renewal fell accordingly. Political interference in the appointment and tenure of senior management increased. Salaries and benefits began to fall in real terms. In spite of substantial donor assistance, it became quite clear that, unless management and commercial autonomy was granted KRC would not be able to respond effectively to the increasing road competition. For example, total earnings from rail traffic (both passenger and freight) have grown more slowly than those from roads. Between 2002 and 2007, earnings from both rail passenger and freight traffic grew from KShs. 4,005 million to only KShs. 4,153 million, compared to earnings from

road passenger and freight traffic which grew from KSh.101, 899 million to KShs. 221,225 million during the same period. While earnings from total road traffic more than doubled, similar earnings from rail traffic during the same period rose by only 3.7%. This lopsided modal split between road and railway traffic is therefore burdensome to the road network and has serious implications on the cost of road maintenance and road safety, among other issues.

- 14 The late 1980s and early 1990s witnessed donor assistance in an attempt to commercialize the management and operations of KRC. An attempt to implement a performance contract between KRC and the Government never materialized. While some measure of commercial autonomy was achieved, the effectiveness of KRC management to deliver efficient rail services had declined substantially. KRC's performance over the years also declined due to motive power and rolling stock capacity constraints caused by inadequate funding. As a result, KRC was unable to meet its traffic demand, losing most of its traffic to road transport.
- 15 The Government and KRC, under a concession agreement, leased the railways assets to RVR to manage and operate cargo transport services for 25 years and passenger services for 5 years from the commencement date of the Concession. This concession has not produced the desired results in terms of improved performance of rail transport and needs a review. Currently, RVR and Magadi Railways (MR) offer rail transport operations in Kenya with MR operating the line between Konza and Magadi (146 km) on behalf of the Magadi Soda Company Ltd. while RVR operate the rest under concession based on leases of assets from KRC

## MARITIME AND INLAND WATER TRANSPORT

- 16 The maritime transport system in Kenya consists of one major seaport, Mombasa and other smaller scheduled ports along the Kenyan coastline (namely, Funzi, Vanga, Shimoni, Kilifi, Malindi, Lamu, Kiunga and Mtwapa). The port of Mombasa which is managed by Kenya Ports Authority (KPA) is one of the modern ports in Africa. It handles all types of ships and cargo services not only for Kenya but also for the Kenyan hinterland and land-locked countries of Uganda, Rwanda, Burundi, Democratic Republic of Congo, Ethiopia, Somalia, Southern Sudan and North-Eastern Tanzania.
- 17 The port has 16 deep-water berths of which three handle containers and 13 deal with conventional cargo. There are two oil jetties for refined and crude oil with a capacity of handling tankers of up to 80,000 DWT. The challenge for the Port of Mombasa is that of attracting and handling increasing traffic within Kenya and from the neighbouring countries as well as international traffic from outside the region. Although KPA rendered satisfactory services over the years, like other parastatals, its efficiency has been hampered by bureaucracy for many years.
- 18 KPA owns and operates Inland Container Depots (ICDs) or "dry ports" at Nairobi, Kisumu and Eldoret, all of which are connected to the port of Mombasa by a special rail service (railer) for the transportation of containerised imports and exports. At the moment only Kisumu and Nairobi ICDs are operational.
- 19 Kenya National Shipping Line (KNSL) is jointly owned by the Government and European investors – Unimar and DEG from Germany. The Government is the majority share holder. The Line was established under the Companies Act in 1987 to enable Kenya participate in its sea trade and take advantage of the business opportunities offered by the growing international maritime industry. The company is a "National Shipping Line" as per the provisions of the UNCTAD Code of Conduct for Line Conferences. KNSL was also established to regulate maritime industry and also help the country reduce depletion of its foreign exchange reserve. The Line, which has operated on slot charter basis, has been unable to exploit the business opportunities available due to structural, technical, legal, and financial problems
- 20 As regards inland water transport, Kenya makes the least use of her portion of Lake Victoria, compared to Uganda and Tanzania despite considerable potential for the country to make use of the

relatively low-cost inland water transport to promote trade with Uganda and Tanzania through the port of Kisumu. Despite its potential for tourism in western Kenya, marine transport on Lake Victoria is neglected. Currently Kisumu's port infrastructure is in poor state and needs rehabilitation and maintenance. The same applies to the smaller ports and piers most of which are inoperable due to lack of maintenance.

- 21 Ferry services are currently provided by Kenya Ferry Services (KFS) Ltd. (which provides these services across the Likoni Channel at Likoni and Mtongwe) and KRC which operates ferries on Lake Victoria. The KFS currently operates as a parastatal owned by the National Government and KPA on an 80 %: 20 % shareholding. The services, both at the coast and on Lake Victoria, are governed by outdated laws, inappropriate institutional frameworks, inadequate capital, poor safety standards and lack of third-party insurance.
- 22 The critical importance of inland water transport in the Lake Basin in Kenya is underlined by its strategic link with the multi-modal transport network converging on Kisumu City as a hub from where road, railway, pipeline and air transport have direct connections to other destinations in Kenya and with all countries in the Great Lakes region through Tanzania and Uganda.

### PIPELINE TRANSPORT

- 23 Pipeline transport originally comprising 450 km from Mombasa to Nairobi, was commissioned in 1978. It was intended to reduce road deterioration on the Kenyan section of the Northern Corridor as a complementary mode of transport for transporting petroleum products within Kenya. The westward extension of the pipeline to Kisumu and Eldoret in the early 1990s considerably reduced the need for heavy oil tankers to collect fuel from Mombasa or Nairobi to Uganda and other neighbouring countries. Despite these developments, there is a need to ensure that the pipeline is operated in a manner that enhances the complementarity of its role with that of other modes. Its management as a parastatal by the Kenya Pipeline Co. Ltd (KPC) needs to be reviewed to cater for the needs of the key stakeholders and the public interest. The pipeline's interface with other transport modes such as roads, rail and marine transport, need to be examined with a view to enhancing cargo security and safety, and minimizing incidents of revenue loss through cargo diversion.
- 24 At the regional level, a decision has already been made to extend the pipeline to Kampala. In addition to this the viability of extending the pipeline to Rwanda and Northern Tanzania is being considered. In this regard, economic and commercial implications of the mooted extension of the pipeline need to be examined, along with environmental issues.

### AIR TRANSPORT

- 25 Kenya has a thriving and viable aviation industry which is vital for the country's development through the provision of air transport services and hence facilitation of tourism, and promotion of trade and earning of foreign exchange. Historically, aviation in Kenya and the other EAC states followed British rules and regulations until the East African Common Services Organization (EACSO), the precursor to the EAC, was established in 1963. The three EACSO / EAC member States, Kenya, Uganda and Tanzania, formed one East African Directorate of Civil Aviation, which formulated aviation policy for the region borrowing heavily from the British policy. EAC governments provided aerodromes infrastructure, while the International Civil Aviation Organisation (ICAO) and the United Nations Development Programme (UNDP) played a big role in the development of human resources and provision of air navigation equipment. When the former EAC collapsed in 1977, each Member State established its own flight information region with its own infrastructure and national airline based on what existed in its territory when the Community collapsed. The first draft Kenyan aviation policy was written in 1978 and its provisional application served the industry well. It was revised in 1999, when new concepts like liberalization, code sharing between airlines and Computer Reservation Systems (CRS) were incorporated.

- 26 After liberalisation of the air transport sub-sector in the 1990s, a need has emerged for the National Government to create an environment conducive to the efficient operation of air transport for passengers and freight. To do this, it has been necessary to accommodate the needs of both domestic and international air operators through the provision of efficient and reliable services at all aerodromes. Aviation policy should also address the problems of safety and security. Other key issues will also include the management of transport and other supporting infrastructure. Similarly, there is a need for human resource development and equipment upgrading to meet industry's obligations nationally, regionally and internationally. The capacity of this sub-sector to compete regionally and internationally for tourist traffic needs strengthening through effective sub-sector co-ordination. Although Kenya Airways was privatized with the majority of its shares owned by KLM Royal Dutch Airlines, it is still operating as Kenya's national carrier.
- 27 Currently, there are about 570 aerodromes in Kenya, of which 156 are public. Of the public aerodromes, ten (10) are currently managed directly by the Kenya Airports Authority (KAA). Most of these aerodromes are financially unviable, resulting in major challenges in their operation and maintenance. These challenges are manifested in form of lack of comprehensive maintenance management systems, congestion in the terminals buildings, lack of air control systems with own dedicated frequencies, lack of modern functional information systems, unserviceable navigational aids (NAVAIDS), inadequate support services such as water and electricity and inadequate security. Other problems include encroachment of land for facilities expansion, and bird strikes.
- 28 Although Kenya has a draft policy and regulations on the management of manned aerodromes, implementation has been weak, while there is no clear policy for the unmanned aerodromes. There is need, therefore, to strengthen the development and management of aerodromes and to integrate them with other modes of transport to enhance their economic value.

## **LEGAL, INSTITUTIONAL AND REGULATORY FRAMEWORK FOR THE TRANSPORT SECTOR**

- 29 The transport sector is governed by numerous statutes that fall under two broad categories, namely statutes affecting all sectors of the economy and sector-specific legislation as shown in Table 1.0 below. Many of the sector-specific laws are outdated and require urgent review to facilitate the effective operations of the entities they govern and to enhance harmony in the transport sector.

**Table 1.0: Key statutes and regulations governing the transport sector in Kenya**

DESCRIPTION		STATUTES AND REGULATIONS
<b>Overarching Statutes</b>		<ul style="list-style-type: none"> <li>• The Constitution of Kenya</li> <li>• The Kenya Police Act</li> <li>• The Administration Police Act</li> <li>• The Wayleaves Act cap 292</li> <li>• The State Corporations Act</li> <li>• The Environmental and Management Co-ordination Act 1999</li> <li>• The Kenya Revenue Authority Act</li> <li>• The Insurance Act</li> <li>• The Exchequer &amp; Audit Act, Cap 412</li> <li>• Privatisation Act</li> <li>• Public Procurement and Disposal Act 2005</li> <li>• Public Private Partnership Act</li> <li>• Lake Basin Development Act</li> </ul>
<b>Sector Specific</b>	<b>Rail Transport</b>	<ul style="list-style-type: none"> <li>• The Kenya Railways Corporation Act Cap 397</li> <li>• The East African Inland Water Transport Act</li> </ul>
	<b>Pipeline Transport</b>	The Petroleum (Exploration and Production) Act cap 308
	<b>Air Transport</b>	<ul style="list-style-type: none"> <li>• The Kenya Airports Authority Act Cap 395</li> <li>• The Civil Aviation Act Cap 394</li> <li>• The Carriage Air Act No.2 of 1993</li> <li>• International Civil Aviation Convention 1944 (hereinafter referred to as The Chicago Convention)</li> </ul>
	<b>Shipping, Maritime and Inland Waterways Transport</b>	<ul style="list-style-type: none"> <li>• Kenya Maritime Authority Act 2006</li> <li>• The Kenya Ports Authority Act Cap 391</li> <li>• The Carriage of Goods by Sea Act Cap 392</li> <li>• The Fisheries Act Cap 378</li> <li>• Lake Victoria Act 2007</li> <li>• The Merchant Shipping Act No. 4 of 2009</li> <li>• The Ferries Ordinance Act Cap 410</li> <li>• The Marine Insurance Cap 390</li> <li>• The Mtwapa Bridge Act Cap 402</li> <li>• The Judicature Act Cap 8</li> <li>• Various Regional/International Maritime legal instruments</li> </ul>
	<b>Road Transport</b>	<ul style="list-style-type: none"> <li>• The Transport Licensing Act Cap 404</li> <li>• The Kenya Road Boards Act, Cap 408</li> <li>• The Road Maintenance Levy Fund Act No.9 of 1993 as amended in 1994</li> <li>• The Public Roads Toll Act, Cap 407</li> <li>• The Finance 2005 Act</li> <li>• The Public Roads and Roads of Access Act, Cap 399</li> <li>• The Local Government Act, Cap 265</li> <li>• The Kenya Roads Act No.2 of 2007</li> <li>• The Traffic Act, Cap 403</li> <li>• The Streets Adoption Act, Cap 406</li> <li>• The Valuation of Rating Act, Cap 266</li> <li>• The Rating Act Cap 267</li> <li>• The Wildlife Conservation &amp; Management Act, Cap 376</li> <li>• The Central Road Authority Act</li> <li>• The Local Authorities Transfer Fund Act No. 8 of 1998</li> <li>• The Agriculture Act, Cap 318</li> <li>• The Physical Planning Act No.6 of 1996</li> <li>• The Local Authority Services Charge Act Cap 274</li> </ul>

## **CURRENT TRANSPORT SECTOR CHALLENGES**

- 30 Despite the growing demand for transport services, Kenya's transport sector is currently facing numerous challenges and deficiencies which have to be addressed both in the medium term and in the long-run within the context of Vision 2030. Some of these challenges will require addressing even beyond the year 2030. The main features of these challenges include:

### **POOR QUALITY OF TRANSPORT SERVICES**

- 31 The transport sector in Kenya is characterised by high costs for passengers and freight, weak public and private institutions, and low levels of investment. Public transport is usually over-crowded and inefficient with unreliable service operations, long waiting times and poor safety and security standards. In freight transport, high cost, long transit times, insecurity of cargo, etc. are some of the common problems. There is an urgent need to revert these trends.

### **INAPPROPRIATE MODAL SPLIT**

- 32 Following the deterioration in the performance of railway transport, road transport has emerged as the main mode of transport in Kenya for both passengers and freight, due to its advantage in terms of speed, flexibility, and accessibility. This distorted modal split whereby the road network carries more than its fare share of traffic, compared to railway traffic, despite the superior carrying capacity of railway transport for both passengers and goods, has resulted in high road maintenance costs due to a higher rate of road deterioration. There is also inadequate use of navigable waterways especially Lake Victoria. There is a critical need therefore to ensure a more balanced modal split in road, railway traffic, pipeline, coastal and inland water transport modes.

### **WEAK ADHERENCE TO ENVIRONMENT REQUIREMENTS**

- 33 Environmental degradation due to transport activities such as gaseous emissions, noise pollution, oil spills by various transport modes have not been adequately addressed both in the urban and rural areas. With the growing levels of urbanization, increased motorization and other transport activities, it is necessary to ensure that the transport system is environmentally friendly.

### **LACK OF URBAN TRANSPORT POLICY**

- 34 Kenya has no urban transport policy yet. As such, there is no clear decision as to which modes of transport and facilities the urban areas should encourage or provide. The Metropolitan Growth Strategy for Nairobi formulated in 1973 with a plan period of 30 years, was never fully implemented. Currently, the City of Nairobi, like most other urban centres lacks an urban development strategy that would serve as a focus for urban transport development. Thus, development of an urban transport policy should aim at developing an integrated, balanced and environmentally sound urban transport system in which all modes efficiently play their roles. Although the proposed Nairobi Metropolitan Region Bus Rapid Transit System and the development of a light rail for Nairobi and its suburbs under Vision 2030 are meant to address this problem for Nairobi, there is a need for an urban policy for all cities, towns and other urban centres in the long term.

### **INSTITUTIONAL DEFICIENCIES**

- 35 Transport facilities under public ownership and management generally have weak and ineffective structures. Lack of capacity and shortage of resources seriously undermines their capability for good corporate governance, sound decision making and efficient management. There is a need for increased private sector participation in the transport sector to ensure efficiency in the allocation of resources and to maximize efficiency in the delivery of services.

## LACK OF FUNDS FOR DEVELOPMENT AND MAINTENANCE

36 In nearly all transport modes, there is a serious lack of funds for development and maintenance. This is particularly true among state corporations that depend on limited direct funding from the Exchequer. Again, the involvement of the private sector participation in the ownership and development of transport could go a long way in mobilizing adequate funding, especially for transport infrastructure and operations. There is a need to ensure adequate funds are available for the development and maintenance of transport infrastructure and operations.



## **CHAPTER TWO: STRATEGIC DIRECTIONS FOR THE TRANSPORT SECTOR**

### **INTRODUCTION**

### **VISION STATEMENT**

- 37 “A world-class integrated transport system that is responsive to the needs of people and industry”.

### **MISSION STATEMENT**

- 38 “To develop, operate and maintain an efficient, cost effective, reliable, safe, secure and integrated transport system and link transport policy with other sectors in order to achieve national and regional development aspirations in a socially, economically and environmentally sustainable manner”.

### **STRATEGIC OBJECTIVES**

- 39 The strategic objectives of this Integrated National Transport Policy will be to:
- a. Integrate transport with national and regional socio-economic needs;
  - b. Establish appropriate institutional systems for transport sector management, coordination and regulation;
  - c. Develop and maintain an integrated and coordinated transport infrastructure for efficient movement of passengers and freight and support disaster management efforts;
  - d. Develop appropriate transport sector funding/financing mechanisms;
  - e. Integrate transport in land use planning and management;
  - f. Deliver efficient and effective transport sector operations to enhance national productivity;
  - g. Enhance investments in the transport sector;
  - h. Apply ICT in transport planning, operations and management to enhance sector efficiency;
  - i. Facilitate regional integration and trade;
  - j. Incorporate environmental protection and resource conservation issues in transport sector activities;
  - k. Ensure enforcement and compliance with sector laws and regulations;
  - l. Develop a national transport information database for effective transport planning and management;
  - m. Promote public awareness through the use of appropriate information to inculcate positive attitude change;
  - n. Improve safety, security and reliability in transporting people and goods;
  - o. Develop and promote appropriate human resource capacities in the sector;

### **POLICY PRINCIPLES**

- 40 To meet these strategic objectives, the government of Kenya (The National Government) will be guided by the following broad principles:

## INSTITUTIONAL PRINCIPLES

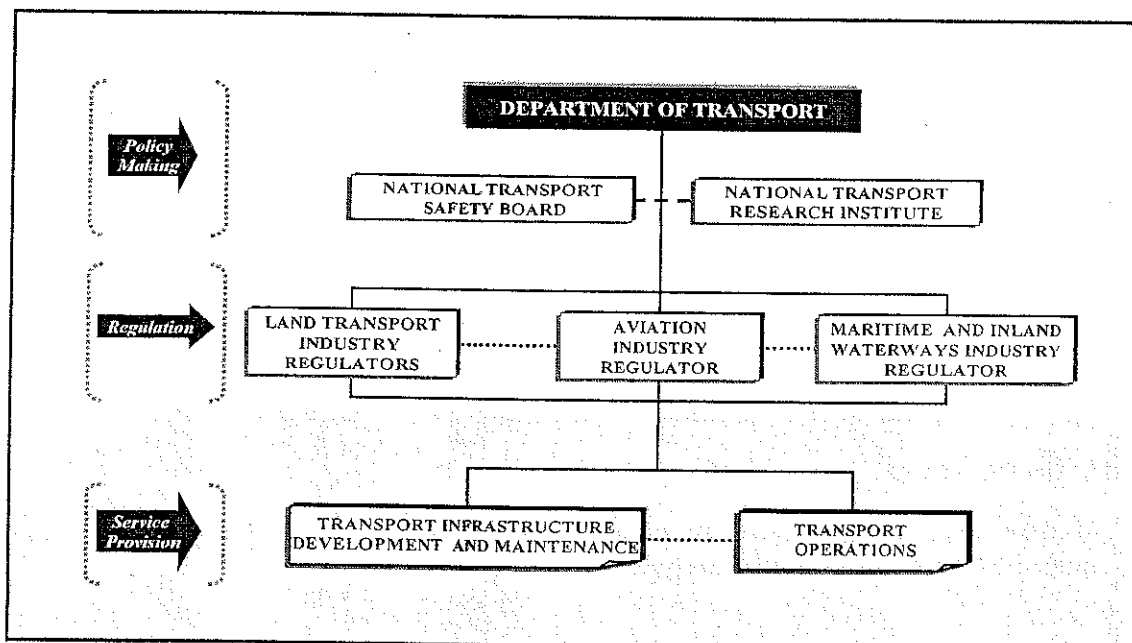
- 41 Public policy making is undertaken at various levels of government i.e. National and County. As such, transport institutional policy needs to address arrangements for relationships at various levels of government and among various statutory bodies and the private sector.

### NATIONAL GOVERNMENT

- 42 Under the Fourth Schedule of the Constitution, the transport functions are distributed between the National and County governments. The National government is responsible for:-
- i. Road Traffic
  - ii. The construction and operation of national trunk roads
  - iii. Standards for the construction and maintenance of other roads by counties
  - iv. Railways
  - v. Pipeline
  - vi. Marine navigation
  - vii. Civil aviation
  - viii. Regulation of international and national shipping and matters related thereto and
  - ix. Space travel

The National Government will establish a Department of Transport in the Ministry responsible for transport as the focal intermodal coordinating institution for all transport modes. The Department will integrate and coordinate planning, develop and manage transport policy, transport infrastructure, services, operations and regulation, research and human resource development for overall transport sector to meet national and regional mobility and accessibility needs.

Figure 1.0: Proposed Restructuring of the Transport Sector



43 The National Government will continue reducing its direct involvement in operations and services to allow for a more competitive environment. In this regard, the primary role of the National Government will be to:

- focus on policy and strategy formulation
- retain its regulatory role to ensure unbiased regulation of safety and quality in general, to regulate market access for transport operators where this is necessary and discourage excessive tariffs in case of monopolies. The shift will affect all levels of government, implying a major restructuring of parastatals in the transport sector;
- facilitate competition, private sector participation and act as the custodian of environmental and social interests;
- intervene in cases of market failure and involve stakeholders in decision-making; and
- maintain its presence in the development and maintenance of transport infrastructure, enforcement of laws and regulations, human resource development, public education as well as transport research and development.

### COUNTY GOVERNMENT

44 The transport functions under the County Government will include:-

- i. County roads
- ii. Street lighting
- iii. Traffic and parking
- iv. Public road transport
- v. Ferries and harbours

The County Government will be responsible for improving governance and service delivery at the county level and this will call for increased responsibilities and greater managerial competence.

45 The County Governments will, in collaboration with the relevant National Government agencies and stakeholders, focus on development and management of transport infrastructure as appropriate, implementation of urban policy, development of county transport plans and integrating these with overall urban land use planning, environmental management, enforcement and county traffic management.

### PRIVATE SECTOR PARTICIPATION

46 The National Government recognizes that the private sector provides the basis for long-term sustainable economic growth. The private sector will be encouraged to participate in the provision and financing of transport infrastructure and services. In view of this, the process of reducing the role of government in commercial activities will continue, particularly through accelerating the privatization programme in the transport sector under the Privatization Act.

47 In enhancing the level of private sector in the transport sector the government will ensure that a minimum of 30% of the total shareholding in privatised transport entities is reserved for Kenyans.

### NON-GOVERNMENT BODIES

48 Various non-governmental bodies play key roles in the Kenyan transport system. These organisations will be encouraged to participate in and lead efforts aimed at creating public awareness on relevant

transport issues, consumer protection, transport research and lobbying.

## PRICING, INVESTMENT AND FINANCING PRINCIPLES

- 49 In order to avoid distortions in pricing and users' choice of transport mode and to promote economic efficiency, pricing of transport services in Kenya has remained mostly liberalized along with other prices in the economy. It is expected, however, that pricing should reflect the cost of services rendered or facilities provided (in the case of infrastructure investment) and that pricing will be undertaken on a cost recovery basis, taking into account externalities such as pollution and traffic congestion. Thus investment and pricing are expected to be undertaken in a manner that promotes sustainable development.
- 50 In view of the above, user charges or cost recovery will be used for "economic" infrastructure (i.e. roads, railways, ports, airports and pipelines). For roads, the government will continue to use the fuel levy and where viable or appropriate, tolls will be applied as a direct user charge. Thus all passenger and freight transport services will be operated on commercial principles. All "economic" infrastructures will therefore be operated without subsidies. The government will, however, encourage stakeholder consultations in pricing and investment decision making.
- 51 Financing approaches will vary across the whole spectrum of infrastructure and operations. Internal consistency will however be taken into account in financing various infrastructure sectors. Distinction will also be made between infrastructure with tangible economic or financial returns and those that provide social or strategic benefits.
- 52 Investments in transport infrastructure will need to satisfy economic, strategic, environmental and social investment criteria. Since investments in infrastructure are mainly long-term in nature, Kenya should establish a solid financial base for the development, maintenance and rehabilitation of transport infrastructure. Investments which help conserve the environment, promote energy efficiency and generate maximum socio-economic benefits will be encouraged.
- 53 The National Government fully recognizes its responsibility to play a leading role in the provision of socially and strategically necessary infrastructure and to ensure the enhancement of mobility and accessibility among all sections of society. It will contribute to the financing of services, which are socially and strategically necessary, in a transparent manner. This will be done through appropriations, grants or subsidies to achieve an equitable distribution of resources. Examples of such investments include provision of transport infrastructure and promoting public transport in remote parts of the country. At present social services are inaccessible to many people in remote districts and villages, particularly during the wet seasons. The private sector will also be encouraged to be involved in funding these types of investment.

## MANAGEMENT, REGULATION AND CONTROL OF OPERATIONS

- 54 Certain aspects of management, regulation or control of the transport system usually result in financial income (e.g. charges for vehicle inspections and fines) or in non-monetary benefits (such as reduction of casualties, or preventing abuse of monopoly power through licensing). It is proposed that a more direct linkage be established between the tangible and intangible benefits of these activities and the defraying of costs of such management, regulation or control. This includes the management of the road traffic system to promote safety, security, and a higher level of service. In these cases, a closer relationship between expenditure and the revenue generated (e.g. the revenues from traffic law enforcement, or insurance) should be established.
- 55 The National Government will, as far as possible, ensure that revenues generated from the transport sub-sector are ploughed back, although it recognizes that this may not be applicable in all cases. Where it has to deviate, it will strive to make financing transparent. In all cases of The National Government financing the return on investment (whether financial, economic, or social) will have to

be transparently justified.

## HUMAN RESOURCE DEVELOPMENT

- 56 Considering the fact that the human resource needs of the transport sector are multidisciplinary in nature, neither the public nor the private sector possesses optimal capacity in terms of the people, skills, or technological knowledge, to fully implement this policy framework, manage the system and achieve the vision for transport.

The National Government will assume some responsibility for capacity enhancement and improving the human resource pool in the transport sector by among other things:

- Developing a National Accreditation System for institutions training transport industry personnel;
- Promoting tertiary education in transport disciplines at Kenyan universities and polytechnics;
- Forging partnerships to provide more scholarships and promoting training and skills development, with relevant institutions; and
- Developing and regulating the necessary curricula for the lower levels of the education system.

## ACQUISITION AND UTILIZATION OF TRANSPORT TECHNOLOGY

- 57 Currently, Kenya has a relatively lower level of scientific and technological base, compared to many medium income countries. To address this problem, a key component of privatisation efforts will be geared towards achieving appropriate transfer of technology to the transport sector. The National Government will also support research into the development and acquisition of appropriate and innovative technologies to meet present needs, so as to keep pace with the rapid development of transport and information technologies internationally.

## CHAPTER THREE: POLICIES FOR THE TRANSPORT SECTOR

### ROADS TRANSPORT

- 58 The road transport infrastructure provides vital links between centres of production and markets. In addition, it gives people access to employment and wide range of social services. For regional development, it facilitates the flow of goods, services across import and export corridors.
- 59 The existing infrastructure is inadequate in terms of reach, condition and technology. Furthermore existing legal and institutional framework is unsuitable and cumbersome for effective and efficient service delivery. Severe vehicle congestion is experienced on roads within large urban centres.
- 60 The scope of road transport infrastructure comprises the entire road network in Kenya and includes all road facilities upon which road transport operates, whether classified or unclassified. It is important to note that road transport infrastructure in line with the constitution will represent a significant portion of the national and county governments' total financial investment in fixed assets.

### ROAD TRANSPORT INFRASTRUCTURE

#### STRATEGIC OBJECTIVES

- 61 The strategic objectives for road transport infrastructure are to:
- a. Establish sound intermodal co-ordinating structures;
  - b. Develop and maintain optimal road infrastructure capable of meeting expectations of Vision 2030;
  - c. Foster a sound financial base for road transport infrastructure development;
  - d. Promote a diverse and competitive road infrastructure within the limits of available resources;
  - e. Promote environmental protection and resource conservation;
  - f. Provide increased mobility and improved accessibility to safe and secure road transport services as part of the national and county governments efforts towards poverty reduction and wealth creation; and
  - g. Advance human resource development in the provision of road transport infrastructure.

### INSTITUTIONAL AND LEGAL FRAMEWORK

#### CRITICAL ISSUES

- 62 The responsibility for Roads Infrastructure is vested in the Ministry of Roads after coming into force of the Kenya Roads Act 2007. The responsibility includes both classified and unclassified roads which currently stand at 160,886 Km. With the enactment of the Kenya Roads Act 2007, three new Road Agencies have been established namely: the Kenya National Highways Authority (KeNHA) responsible for Class A, B and C roads; Kenya Rural Roads Authority (KeRRA) responsible for Class D, E and other roads and Kenya Urban Roads Authority (KURA) responsible for urban roads. The Kenya Roads Board (KRB) is responsible for financing the maintenance of roads and undertaking technical audits. The critical challenge is to align the operations of the road sub-sector in line with the constitution

## POLICY

- 63 Appropriate linkages/working mechanisms between the National Government, county governments, Road Agencies, Kenya Roads Board, Development Partners and the Private Sector shall be established within the Roads Sub-Sector to enhance service delivery.
- a. Stakeholders' participation shall be encouraged at all levels where road development, rehabilitation and maintenance is undertaken.
  - b. Deliberate efforts will be made to build capacities (both institutional and human) in the Roads Sector, and
  - c. Deliberate and sustained effort shall be made to strengthen governance in the Roads Sector.
  - d. The National and County governments will endeavour to register all road reserves with a view to protecting them from encroachment.

## DEVELOPMENT AND MAINTENANCE OF ROADS

### CRITICAL ISSUES

- 64 There is an urgent need to integrate road transport infrastructure planning with overall economic planning, to take into account the changing local and regional economic activities and population issues. It is also necessary to establish an optimum balance in the development of road infrastructure to achieve a harmonized mutually complementary and competitive road infrastructural development on a sustainable basis. The rate of road deterioration has tended to exceed that of road maintenance/rehabilitation despite the adoption of various road development and maintenance strategies. This situation has been aggravated particularly by inadequate finances, low contractor capacity and poor supervision mechanisms in force.
- 65 There is an imbalance in road transport infrastructure development in the country with a high concentration of road infrastructure development along the Mombasa-Nairobi-Malaba transport corridor which primarily used to serve mainly the former white highlands. The Northern, Eastern and Southern parts of the Country are poorly served by roads, with North Eastern part being the worst hit. The North Eastern part of the country, covers approximately 30 per cent of the country's land mass and has less than one per cent of its roads network paved. Generally, most counties in the country suffer from poor transport infrastructure conditions. There is a need to embrace "corridor development approach" to improve road conditions to enhance urban and regional linkages, facilitate service delivery and efficient mobility of both people and goods.
- 66 Advanced technologies are increasingly playing a major role in the planning, development and management of road transport infrastructure to enhance efficiency and safety in transport worldwide. In Kenya, however, such systems have not been put in place thus hampering integrated and efficient intermodal infrastructure provision. Similarly, there is lack of appropriate information systems for informed decision making for the development and management of road infrastructure. Adherence to standards is key while handling procurement bottlenecks is inadequately tackled.

## POLICY

- 67 The government will ensure that:
- a. A strategic approach on long term, integrated and sustainable planning and provision of the road transport infrastructure consistent with the needs of the country shall be developed to respond to various regional land use and road transport demand management. The regional harmonization of networks under COMESA, ECA, IGAD, EAC and NEPAD including rules regarding

operations of roads shall be pursued through regional arrangements to enhance development and maintenance of roads with greater regional importance.

- b. Where road transport is identified as the major constraint to the stimulation of economic development, the National and County governments shall take the lead in establishing the necessary road transport infrastructure by promoting the participation of other public and private sector institutions in its development and maintenance in order to facilitate and accelerate the development process. The corridor development approach shall be adopted where feasible. The main road corridors identified for development and improvement are:
  - i. The Northern Corridor which runs from Mombasa at the Coast through Nairobi, Nakuru, Eldoret to Malaba at the Kenya Uganda Border and the Nakuru - Mau Summit through Kericho and Kisumu to Busia at the Kenya Uganda Border.
  - ii. The Great North Road that runs from Namanga at the border with Tanzania, through Nairobi and Isiolo to Moyale.
  - iii. Lamu - Garissa - Wajir to Mandera
  - iv. Tarime - Kisii - Kisumu - Kitale - Lodwar to Kenya - Sudan Border
  - v. Kitale - Endebes-Suam - Uganda
  - vi. Isiolo-Kainuk-Uganda border corridor
  - vii. Somalia Border-Lamu-Mombasa-Lunga Lunga corridor
  - viii. Kainuk-South Horr-Marsabit-Moyale corridor
  - ix. Wajir - Isiolo - Mai Mahiu-Sotik-Migori.
  - x. Road transport corridor connecting Lamu to Southern Sudan - Ethiopia through Isiolo
- c. The development of these corridors and access links will enhance both internal and regional mobility while facilitating the movement of inputs and outputs between production and market centres, particularly to rural areas. It would equally facilitate the accessibility of services especially health, education, markets, administration, water among others in rural areas. In particular, the development and improvement of roads in Northern region and other arid and semi arid lands (ASALs) of the country would facilitate the establishment of livestock based industries and enhance the development of irrigation agriculture in the region.
- d. A comprehensive management information system, based on performance indicators and models that enable the provision of an integrated demand and supply driven road transport infrastructure shall be established. This will ensure economic efficiency and enhance socio-economic impacts of road infrastructure development and maintenance on various aspects of the economy.
- e. On road maintenance, the national and county governments shall adopt the most appropriate and efficient contracting methods, which provide for input-based and performance-based contracting for maintenance works. The process will involve private sector participation while reducing current excessive and cumbersome contracting process.
- f. To ensure that the quality for delivery mechanism is kept constant, standards for development and maintenance shall be adhered to with a view to ensuring efficient road transport infrastructure.

## **NON-MOTORIZED AND INTERMEDIATE MEANS OF TRANSPORT (NMIMT) POLICY**

### **BACKGROUND**

68 Non-motorized means of transport (NMTs) includes walking, head, shoulder or back loading, the use of wheelbarrows, hand-carts (*mikokoteni*), animal transport (horses, camels, donkeys, mules and oxen



as beasts of burden), animal-drawn carriages (such as sledges), bicycles and tricycles to transport passenger and freight. Intermediate means of transport (IMTs) broadly refers to low-cost transport innovations that increase the load carrying capacity beyond head, shoulder or back loading and/or increase travel speeds beyond walking. They include low engine capacity vehicles such as motorcycles and motor tricycles and sidecars or trailers attached to these.

- 69 Despite the country's elaborate road network, the Kenyan rural transport scene is still characterized by walking and head or back loading, mainly by women and children, both along roads, paths and tracks. In the urban areas, public transport is unaffordable to many households, leading to low productivity and the drudgery of walking for most of them. The loads carried by walking persons are usually small, hardly exceeding 40 kg. Distances that can be covered on foot are also short, averaging about 5 km on each trip.
- 70 Over the years, road development has focused attention mainly on roads for motorized transport although this has not been matched by increased access to motorized transport mode. In Nairobi, for instance, 60 per cent of the residents meet their daily travel needs by walking while 35 percent travel by public transport (mostly matatus and buses) and only 5percent use private cars. By contrast, between 15-20 percent of Mombasa residents meet their travel needs by walking and 60percent by public transport.
- 71 Because of widespread poverty, the use of motor vehicle is generally limited and largely unaffordable to the majority of the low income individuals and households, in both urban and rural areas. In both rural and urban areas, access to NMIMT is still hampered by many constraints, including lack of appropriate infrastructure and bias against NMIMT.
- 72 The NMIMT are not fully recognized by law to qualify for the Government's technical and/or financial support. This applies also to NMIMT infrastructure and attention is mainly focused on motorized transport and its infrastructure. Recognition of NMIMT, however, is likely to raise several issues, which will need to be addressed. These include; safety, communal biases; lack of an industry producing appropriate vehicles to ensure their availability on a sustainable basis; lack of skills and lack of funds.

#### STRATEGIC OBJECTIVES

- 73 The strategic objectives in this area are to:
- a. Incorporate NMIMT in the transport policy as part of the national and county governments strategies for wealth creation / poverty reduction;
  - b. Encourage the development of NMIMT along with other transport modes in order to increase accessibility and mobility at household and community levels, in both rural and urban areas, raise productivity in agriculture and other economic activities,
  - c. Complement and enhance the impact of motorized and other modes of transport using NMIMT and thus develop an integrated and seamless transport network at various levels of affordability.
  - d. Encourage the development and use of NMIMT in the country as part of an integrated transport system that meets basic needs of low-income individuals and households.
  - e. Increase productivity in agriculture and efficiency in small-scale productive economic activities through increased efficiency of transport at individual and community levels.
  - f. Increase accessibility and mobility, especially among people in the lower income groups in both rural and urban areas.
  - g. Increase the socio-economic impact of motorized transport through the NMIMT.

## CRITICAL ISSUES

- 74 Although various forms of NMIMT are already in use in several parts of the country, little has been done to incorporate them into the road transport network or in the national transport system so that they can effectively play a complementary role in the transportation of both passengers and freight. There is a need for their recognition, development, funding and technical support from national and county governments and the private sector. Lack of infrastructure for NMIMT has led to a situation where the same road space is shared amongst pedestrians, motorized transport and NMIMT thus compromising safety.

## POLICY

- 75 The development of NMIMT will be legally incorporated into the national and county transport planning and policy areas as part of the road transport policy in both rural and urban areas.

## INFRASTRUCTURE DEVELOPMENT AND MAINTENANCE

### CRITICAL ISSUES

- 76 Over the years, facilities for NMIMT have only been provided alongside or in relation to roads meant for motorized transport. Foot bridges, for instance have been inadequately provided and/or poorly maintained by local authorities or road agencies for pedestrians in both urban and rural areas.

### POLICY

- 77 The development and maintenance of infrastructure for NMIMT will be supported by all local authorities and road agencies. In the urban areas, each local authority or agency will provide and maintain adequate sidewalks and pavements for pedestrians, separate lanes, parking bays, bridges, footpaths, and other facilities for NMIMT, including ramps for the physically challenged.

## LEGAL, INSTITUTIONAL AND REGULATORY FRAMEWORK

### CRITICAL ISSUES

- 78 NMIMT are already in use and a popular mode of transport in various parts of the country. No action has been taken to integrate them into the national transport network so that they can effectively play a complementary role to road and other transport modes for both passengers and goods.

### POLICY

- 79 Steps will be taken to harmonize the NMIMT and their concomitant infrastructure into the technical, legal and institutional mandates of existing Road Agencies, county governments and relevant Ministries so that they can effectively play a complementary role to other transport modes.

## SUPPLY AND USE OF NMIMT

### CRITICAL ISSUES

- 80 For NMIMT to be available on a sustainable basis, it is necessary to commercialize their regular production/manufacture, based on readily available skills, taking into account appropriateness and suitability of the products and local needs in various parts of Kenya. Most of the existing design and development for the NMIMT vehicles have been undertaken through the informal Jua Kali sector. Considerable efforts have also been made in this area by non-governmental organizations (NGOs). Commercialization of their production could lower their unit costs and enhance their affordability.

## POLICY

- 81 The National Government shall:
- a. Support existing efforts to produce /manufacture the NMIMT.
  - b. Support efforts by the private sector aimed at promoting the production and marketing of NMIMT will be encouraged and supported.
  - c. Consider provision of incentives to small and medium enterprises (SMEs) especially Jua Kali artisans to invest in the development, manufacture and maintenance of NMIMT.
  - d. Support tertiary and other training institutions to undertake research on the development of appropriate technology for various types of NMIMT.
  - e. Encourage, especially through the SMEs, and Jua kali artisans, to invest in the production of prototypes of NMIMT vehicles.
  - f. Consider granting appropriate fiscal incentives to investors.

## HUMAN RESOURCE DEVELOPMENT FOR NMIMT

### CRITICAL ISSUES

- 82 Although a number of NGOs and the private sector have already developed certain types of NMIMT, these efforts are still scattered and uncoordinated. Technical knowledge on the manufacture and use of NMIMT is therefore scarce and similarly uncoordinated. For the sustainability of the development of NMIMT, it is necessary to ensure a continuous availability of experts, including engineers and technicians, at various levels for each type of NMIMT. Most training institutions do not teach skills relevant to NMIMT.

## POLICY

- 83 The national government will pursue the following policies:
- a. Training institutions will be assisted to introduce relevant courses and syllabi for training technical personnel to ensure acquisition and dissemination of skills necessary for the development and maintenance of NMIMT infrastructure.
  - b. Promote public education and awareness on the handling and care of animals used as beasts of burden and in transport.

## SAFETY OF NMIMT

### CRITICAL ISSUES

- 84 At the moment, available road space is shared by both NMIMT and motorized vehicles leading to traffic congestion and pose a serious danger to road safety. In the urban areas, although many workers can afford NMIMT such as bicycles, they in many cases fear using them because of the high-risk of accidents under these conditions. They are therefore forced to meet their transport needs through walking. At the moment, most users of NMIMT are not knowledgeable on the basic traffic laws and regulations. Most local authorities also do not keep a register of NMIMT or their owners.

## POLICY

- a. All NMIMT using roads in both urban and rural areas shall be registered with the county governments for purposes of identification. Animals using roads shall be branded for this purpose.
- b. In order to enhance safety on the roads, users of NMIMT shall be required to have knowledge

of rules governing road use;

- c. Standard technical specifications shall be set for each category of NMIMT, including handcarts, wheelbarrows, bicycles, tricycles and motor cycles.
- d. The possibility of addressing insurance issues relating to NMIMT will be examined.

## **INCENTIVES FOR NMIMT DEVELOPMENT**

### **CRITICAL ISSUES**

- 85 During the initial stages of the development of NMIMT, it will be necessary for the national and county governments to provide various incentives in order to promote their production by the private sector in sufficient numbers to cater for needs of the urban and rural areas.

### **POLICY**

- a. Fiscal and other incentives will be used the National Government to make NMIMT affordable;
- b. Investment incentives shall be given to small scale and Jua Kali artisans to invest in the development, manufacture and maintenance of NMIMT.
- c. NMIMT will be encouraged as a viable option to other modes not only in the rural areas but more so in urban areas

## **ADVOCACY**

### **CRITICAL ISSUE**

- 86 In a number of areas, people are still biased against the NMIMT and/or their use, especially by women and girls. It is necessary therefore to minimize these biases and to ensure a wider acceptance of NMIMT at all levels.

### **POLICY**

- 87 Support shall be given to the increased use of NMIMT. In particular, sensitization programmes/campaigns to remove certain communal biases against the use of NMIMT by women and girls will be undertaken.

## **ENFORCEMENT**

### **CRITICAL ISSUES**

- 88 Although provisions of the Traffic Act and by-laws of local authorities recognize the use of certain NMIMT, enforcement of these by-laws for the benefit of the users or for the benefit of other road users is weak. Enforcement of traffic and other laws has not been strengthened.

### **POLICY**

- a. All road users, including those using NMIMT will be required to have knowledge of basic traffic rules.
- b. Enforcement of by-laws on use of NMIMT shall be enforced by Local Authorities

## **ROAD PASSENGER TRANSPORT SERVICES**

- 89 Besides walking and non-motorized vehicles (mainly bicycles), road transport vehicles (buses, matatus, taxis, motorcycles and private cars) are the primary means of passenger transport in both urban and

rural areas. Intercity passenger transport services are mainly provided by buses, matatus, private vehicles and to a lesser extent by air and rail transport.

- 90 The Road Passenger Transport Policy covers both public and private passenger movement on roads using buses, matatus, taxi, four wheelers, light delivery vehicles, private motorcars, Tour vehicles, motorcycles and bicycles as well as walking. This policy looks into the consolidation of institutional, administrative, operation, regulatory, financial and planning aspects of road passenger transport in Kenya at both national and county levels. The policy adopts an integrated approach taking into account support mechanisms such as human resource development, environment, commerce, information, safety and security of road passenger transport.

#### STRATEGIC OBJECTIVES

- 91 The strategic objectives for road passenger transport are to:
- a. Promote spatial integration of motorized and non-motorized road passenger transport needs in urban and rural areas;
  - b. Ensure that road passenger transport addresses access and mobility needs and standards to limit travel time and distance in urban and rural areas;
  - c. Provide appropriate institutional structures, which facilitate the effective and efficient operations, competition, planning, funding, regulation, permission and law enforcement of the road passenger transport system;
  - d. Promote professionalism in road passenger transport operations to encourage more private sector investment;
  - e. Promote environmentally sensitive and sustainable energy efficient road passenger transport in urban and rural areas; and
  - f. Promote the application of ICT in road passenger transport operations.

#### LAND USE AND SPATIAL DEVELOPMENT FOR ROAD PASSENGER TRANSPORT

##### CRITICAL ISSUE

- 92 One of the reasons for traffic congestion in urban areas, especially in Nairobi and Mombasa is improper land use and physical planning. Land use planning and development especially in urban areas and road passenger transport development are currently not integrated. This is due to poor coordination of responsibilities for administration, planning and regulation of the various aspects of land use, infrastructure and operations. Physical Planning Departments in most local authorities are usually under-staffed and hence inadequate capacity to undertake physical planning. This situation has given rise to spatially dislocated settlements, urban sprawl, and long travel distances and times. In many cases, land meant for infrastructural development is not secure and is susceptible to illegal allocation to private developers.
- 93 In addition, urbanisation in Kenya has been growing rapidly since independence. During the two intercensal periods (1969 – 1989) and (1989- 1999) the rates of growth of urban population has increased from 8 percent in 1980s to over 34percent in 2003 and is projected to reach over 50percent by 2020. The population of Nairobi alone has reached over 3.0 million residents and a day population of 4.5 million people. This calls for an elaborate urban transport services to serve mobility needs of the population.
- 94 Buses, matatus, taxis, motorcycles and non-motorized vehicles provide urban passenger transport services in Kenya. Due to lack of efficient mass transport systems, private cars constitute about 45% of all vehicles in urban centres. Public passenger transport services are characterised by:

- Over-crowding of passengers in PSVs and long queues of commuters at “termini” during peak hours;
- Irregular operating schedules offered by public transport operators;
- Vehicular congestion arising from poor road space usage by private vehicles, PSVs and NMIMT;
- Use of low occupancy vehicles by public service vehicle operators and insufficient supply and use of NMIMT as well as lack of standards in the design and manufacture of NMIMT vehicles; and
- Poor road design e.g. inadequate drop and pick up points, joining of secondary and primary roads.

## POLICY

- 95 The following spatial development principles will support passenger transport policy:
- a. Land use development proposals shall be subject to a land use and road passenger transport policy framework within an agreed development planning process;
  - b. The effective functioning of cities shall be enhanced through integrated planning of land use, transport infrastructure, transport operations and bulk services;
  - c. Establishment of a coordination framework for agencies responsible for the planning and development of road passenger transport infrastructure and services;
  - d. Road passenger transport planning shall be carried out in an integrated and comprehensive fashion to link with other modes with a view to enhancing efficient and effective mobility; and
  - e. Land earmarked for future road development shall be well secured by issuing title deeds of road reserves to the Ministry responsible for roads.

## INSTITUTIONAL FRAMEWORK FOR PASSENGER TRANSPORT OPERATIONS

### CRITICAL ISSUES

- 96 There is a fragmented and uncoordinated legal and institutional framework for regulation, coordination, development and management of road passenger transport services. The functions of the Transport Licensing Board (TLB), which is supposed to be the industry regulator does not include the provision of road passenger transport services.
- 97 The Board neither prepares road passenger transport plans, nor does it formulate standards in the quality of service and vehicle standards and regulations to guide industry operations. The current licensing framework is based on applications, while the supervision of the licensed operators is left to traffic police whose core function does not include this area of operational priority. Further, even though the TLB license fees are derived from the TLB license, its revenues are all remitted to the Exchequer, which is not obliged to allocate the same to the board. The Board is therefore not financially autonomous and relies on central government financing. Similarly, it lacks institutional autonomy in decision making since its decisions are subject to ratification by the central government. While the private sector has shown immense interest and capacity to invest in road passenger transport, there has been lack of clear institutional guidance to foster meaningful long-term investment, especially in large buses.

### POLICY

- 98 The current regulating framework (Transport Licensing Act, Cap 404) shall be reviewed with a view to enactment of a service and operation management legislation to ensure the road passenger transport services are carried out in a legally organized environment. The institutional framework will distribute functions between the licensing and service authorities in both local and central governments in accordance with capacity and institutional responsibilities to provide a climate that is conducive to

private sector investment.

## FRAMEWORK FOR PASSENGER TRANSPORT OPERATIONS AND MANAGEMENT

### CRITICAL ISSUES

- 100 Optimal operations of public passenger transport are achieved only when adequate infrastructure and proper regulations are in place under competitive conditions. At the institutional level, there is lack of an urban transport authority to comprehensively deal with the problem of urban passenger transport among other related issues. Inadequacy of laws and poor law enforcement have aggravated the already disorganized public transport service operations especially matatus. Traffic regulations are excessively flouted while illegal gangs charge unauthorized fees which inhibit the operations on certain routes by interested industry investors. In general, there is indiscipline in the urban transport passenger operations (e.g. noise pollution from shouting touts and loud music) due to lack of standardization of vehicles and services. In Nairobi and Mombasa, this situation has grown worse with the expiry of the franchise granted to Kenya Bus Services (KBS). This disorganization has also led to shortages of school transport in principal towns and cities. Cartels are also evident in taxi operations to which operators pay exorbitant entry fees before commencing operations.
- 101 The development of road infrastructure such as dedicated bus lanes and terminal facilities to support public passenger transport is hampered by poor financial status of local authorities. As a result, infrastructure development has not responded to the increased demand from the rapid growth in vehicle population, especially in cities. Terminal facilities are inadequate, forcing public transport vehicles to use road space as terminal points, thus compounding congestion in cities. Moreover, there is no statutory requirement for licensing public transport vehicles (matatus and buses) on the basis of road passenger transport plans in urban areas leading to unbalanced vehicle supply on certain routes, inefficient and unsafe public transport services.

### POLICY

- a. Establishment of autonomous Metropolitan Transport Authorities to manage urban transport operations.
- b. The public road passenger transport system in Kenya shall be based on regulated competition and strict law enforcement
- c. Operation licenses shall be issued on the basis of compliance with traffic safety regulations.
- d. Adequate and appropriate infrastructure shall be developed to support efficient public transport operations to reduce waiting times, travel times and to enhance road safety.
- e. Provide park and ride facilities outside CBDs

### RURAL PASSENGER TRANSPORT SERVICES

- 102 The National Government will:
- Coordinate with relevant sectors and communities to establish facilities such as schools, health centres, water, energy, etc. near the population;
  - Plan rural development programmes, with transport aspects being considered along with other land use, social, economic and cultural factors;
  - Promote use of non-motorized transport to ferry passengers as an alternative means where motorized vehicles are insufficient;
  - Enhance use of water transport for rural areas along the coast, lakes and rivers.

- Undertake a study to evaluate how public-private partnerships can be developed to offer regular low cost transport services.
- Segment policy direction in urban/rural etc transport

## ROAD FREIGHT TRANSPORT

### BACKGROUND

- 103 Road freight transport embraces domestic and international conveyance of goods by road by heavy goods (commercial) vehicles (HGVs) mainly comprising lorries, trucks, heavy vans, trailers and fuel tankers. In 2007 Kenya had about 117,150 commercial vehicles of this type. The basic requirements for road freight transport include high quality service to customers and (with regard to cost, reliability and timeliness of delivery), a seamless inter-modal operations, optimised use of capacity and management of operations, protection of infrastructure and minimal environmental impact.
- 104 Inter-modal transportation is the concept of transporting goods in such a way that all parts and facets of the process, including information exchange, are efficiently linked and coordinated, offering flexibility. It is not just the infrastructure, vehicles, or equipment involved, but the management and operation processes. The true advantage of inter-modalism is the ability to logistically and effectively link two or more modes of transport for the benefit of customers and users. Both information-technology and containerisation play an important role in facilitating multi-modalism. An effective freight transport system also requires the harmonization of technical standards and an interface with all concerned stakeholders.

### STRATEGIC OBJECTIVES

- 105 The strategic objectives in road freight transport emanate from the fact that besides her own domestic requirements for this mode of transport, Kenya is also an important transit country within the Northern Corridor for hinterland neighbouring countries, namely, Uganda, Rwanda, Burundi, eastern parts of the Democratic Republic of Congo (DRC), Southern Sudan, Southern Ethiopia, and Northern Tanzania. These objectives are to:
- Facilitate the provision of low-cost high quality and internationally competitive freight services in the Northern Corridor and for all transit and domestic freight traffic;
  - Promote the development of a competitive freight transport system providing efficient and reliable services that adequately satisfy the Kenyan domestic requirements and enhances the competitiveness of Kenyan goods on the domestic and external markets;
  - Facilitate the provision of low-cost high quality and internationally competitive freight services in the Northern Corridor and for all transit and domestic freight traffic;
  - Minimize or eliminate non-tariff barriers in road freight transport movement and achieve the growth of a seamless flow of freight traffic throughout Kenya in collaboration with all neighbouring states under various regional and international arrangements;
  - Promote the adoption and application of freight transport system based on modern information technology in freight transport backed by strong linkages with other transport modes countrywide, regionally and internationally;
  - Encourage human resource development in road freight transport;
  - Minimize damage to road infrastructure by freight vehicles and damage of freight vehicles by poor road infrastructure and enforcement of laws relating to road freight transport; and
  - Manage emerging challenges affecting road freight operators in respect of health, safety, security, gender and environment along transport corridors.



## AXLE LOAD CONTROL

### CRITICAL ISSUES

- 106 Overloaded Heavy Goods Vehicles (HGVs) contribute to road destruction. Conversely, the damaged roads adversely affect the operating conditions for both HGVs and other vehicles. Current axle load control measures have not effectively reduced damage to the roads due to management weaknesses.
- 107 The seven weighbridges between Mombasa and Malaba are considered too many and lead to traffic delays that are eventually reflected in the prices of goods. Currently road transport carries more traffic in the Northern Corridor than the railways, leading to high road maintenance costs and high vehicle operation costs. Railway haulage is safer and less susceptible to the numerous NTBs mentioned above. There is an urgent need therefore to improve the railway freight services. Railways have a lower transport costs per tonne/km than road transport over distances exceeding 400 km.

### Policy

- a. Axle load regulations will be strictly enforced.
- b. Administrative and other weaknesses in law enforcement will be eliminated.
- c. Weighbridges will be located mainly at major sources of freight and exit border points;
- d. Efficiency and capacity of Railway transport operations will be improved through modernization of rail infrastructure and the rolling stock and reviewing existing concession agreement
- e. Measures will be taken to ensure efficient operation of Kenya Pipeline Co. Ltd. (KPC) to minimize road damage by transit fuel tankers from the neighbouring countries;
- f. Installation of weigh-in-motion equipment together with modernization of existing weighbridges.
- g. Freight transport operators will be sensitized on the need to adhere to axle load regulations.

## ROAD FREIGHT OPERATORS

### CRITICAL ISSUES

- 108 Liberalization of the road freight industry has resulted in the increase in the number of operators who are inexperienced and lack relevant managerial skills. This has resulted in poor quality of vehicles and operating standards. The consequence of this has been that road transport services have been expensive for consumers resulting in poor vehicle utilisation and hence low returns on investment.

### POLICY

- 109 The National and County governments shall provide an enabling environment to facilitate efficient operations of road freight transport industry.

## ROAD FREIGHT TRANSPORT AND THE ENVIRONMENT

### CRITICAL ISSUES

- 110 Freight transport contributes significantly to air and noise pollution. There are no effective control measures in transportation of hazardous materials and substances, which result into environmental degradation.

### POLICY

- a. The Government shall ensure strict enforcement of regulations governing the transportation of hazardous materials and substances so as to minimize chances of disasters, such as fires arising from spills of petroleum fuels through road accidents. Effective disaster management measures

will also be established to deal with such disasters when they occur.

- b. Address environmental impacts in conjunction with the National Environmental Management Authority (NEMA) and other relevant government agencies.

## **ROAD FREIGHT TRANSPORT AND HEALTH**

### **CRITICAL ISSUES**

- 111 Road freight transport in the country has been identified as a major cause of road accidents, which result into high health care bill as well as the emotional suffering, occasioned to family members and relatives. The role of freight transportation and the workers in the sector in transmittal of diseases cannot be under estimated.

### **POLICY**

- 112 The national and county governments will develop a framework for interventions to reduce the potential and actual negative effects of road transport on health. The intervention shall include integration of health issues in road transport planning, design and operations.

## **ROAD TRANSPORT SAFETY AND SECURITY**

- 113 Road safety encompasses both safety from road crashes and the increasing level of criminal activity on the roads. Over 85.5% of road accidents in Kenya are occasioned by human error on the part of drivers of motor vehicles, motorcyclists and pedestrians. 10.5% of the accidents can be attributed to defective vehicles while the balance (4%) is attributable to the road environment. Over 12,000 traffic accidents occur annually causing an average of 2,500 fatalities and over 11,000 serious injury cases. In addition, property such as vehicles and road furniture are destroyed when an accident occurs. It is estimated that the current total annual average cost to the economy because of road accidents approximates to 5% of the GDP. This has a substantial negative impact on the economy. Most road users have little understanding of traffic rules and regulations. Few have adequate appreciation of their role in reducing road accidents.
- 114 The shared use of road space by both NMIMT and MT endangers the safety of road users and that NMIMT lack adequate road user knowledge. This results into increased vehicle pedestrian conflicts. NMIMT facilities do not adequately cater for the underprivileged and those with special needs.

### **STRATEGIC OBJECTIVES**

- 115 The strategic objective in road traffic is to promote and implement efficient, integrated, and co-ordinated road traffic management systems in the country, involving role-players in all functional areas of road traffic management. The specific objectives include:-
  - a. Improve road traffic safety
  - \* b. Enhance road traffic discipline
  - c. Protect the expensive capital investment in the road system
  - d. Enhance administrative and economic order in the field of road traffic and transport
  - e. Driver training and testing, R&D
- 116 Performance indicators shall be established, and the relevant co-ordinating bodies required to monitor the achievement of the objectives.
- 117 The general policy areas on funding, traffic control, adjudication of traffic offences, and enhancement of road user knowledge, skills and attitudes and information management have been identified as the key policy areas in traffic management.

## INSTITUTIONAL FRAMEWORK FOR ROAD TRAFFIC SAFETY

### CRITICAL ISSUES

118 Currently, there is lack of an appropriate institutional framework for traffic safety coordination and management in Kenya. Traffic control (law enforcement) is identified as a traffic management priority, due to a severe breakdown in discipline on the roads, which in turn leads to unsafe conditions, damage to the road infrastructure, etc. Lack of discipline can only be rectified through strong proactive and reactive control actions. The effectiveness of the traffic control function must be improved substantially.

### POLICY

- a. The National Government will build the capacity of the National Road Safety Council and later transform it to National Road Safety Authority for the coordination and management of road traffic safety.
- b. Institutions dealing with road traffic will be harmonised, streamlined and strengthened.
- c. The level of professionalism in traffic control and safety standards will be enhanced to improve road safety and levels of service on traffic control.
- d. Traffic control resources will be enhanced and utilized optimally, with emphasis on efficiency, productivity and accountability.
- e. Special emphasis will be given to engender voluntary compliance by road users with the law;
- f. Traffic control and safety management will be enhanced through modernization, additional traffic personnel and equipment.

## ADMINISTRATION AND ADJUDICATION OF TRAFFIC REGULATIONS

### CRITICAL ISSUES

119 Existing deterrent measures are inadequate and do not serve the purpose, while loopholes exist in punitive judgements delivered by the adjudication authority. There is a general delay in adjudication of traffic offences in law courts due to poor co-ordination between traffic control and the adjudication function. These problems, including corruption, are perceived to contribute to lack of respect for traffic law among many transport operators. Innovative and realistic solutions to these problems require that legal principles be honoured without compromising the effectiveness of traffic control.

### POLICY

- a. More deterrent measures will be instituted against traffic offenders;
- b. Certain traffic offences will be identified and decriminalised. Traffic officers will be empowered to enforce traffic penalties as prescribed by law. This will make the process of adjudicating traffic offences brief, strict and decisive, and will assist in restoring respect for the law and road safety;
- c. The large percentage of traffic prosecutions instituted by traffic departments that are never finalized, or are only finalized after an extensive period usually at an excessive cost, will be solved by decriminalizing certain traffic offences.
- d. In respect of non-decriminalized offences, the judiciary will be encouraged to offer expedited adjudication of the cases.

## IMPROVEMENT OF ROAD USER KNOWLEDGE, SKILLS AND ATTITUDES

### CRITICAL ISSUES

- 120 A solution to road traffic problems can only be reached if the need to focus on the human aspects of road traffic is fully recognized. Improvement of road user knowledge, skills and attitudes as a road traffic management function should receive high priority in view of the extreme importance of this function in achieving acceptable levels of road traffic quality.

### POLICY

- a. All categories of road users will continuously be exposed to a purposeful programme aimed at enhancing their knowledge, skills and attitudes, at promoting their voluntary compliance with the law, and at developing community ownership and participation in enhancing road traffic quality. Road user knowledge, skills and attitudes will be enhanced through a comprehensive approach, including formal education, non-formal education and informal education where media such as radio, television, posters, pamphlets, etc, are used.
- b. Traffic authorities will coordinate and monitor driver training and license acquisition of driving licences to ensure that training standards are not compromised;
- c. Traffic control (law enforcement) programmes will be supported by well researched promotional and motivational programmes, so as to: create the necessary public understanding of their responsibilities, public understanding of the reasons for the existence of the law, public acceptance and support for their control activities; to increase public awareness of the control programmes; and to enhance the effectiveness of the programmes.
- d. Adequate resources will be made available for the enhancement of road user knowledge, skills and attitudes.

## ROAD TRAFFIC ADMINISTRATION AND INFORMATION SYSTEMS

### CRITICAL ISSUES

- 121 Road traffic management information systems in Kenya are currently inadequate. To manage road traffic matters effectively and efficiently, up-to-date and reliable information on vehicles, their owners, accidents, offences, and convictions, among others is required. Information management through a Transport Integrated Management System (TIMS) and other supporting systems requires to be developed and utilised. There is also a need to institutionalise collection, storage, retrieval and analysis of traffic data.

### POLICY

- a. Transport Integrated Management System (TIMS) will be developed and made fully operational. This will enable traffic authorities to exercise proper road user control, which is an essential prerequisite for discipline, order and safety on the roads.
- b. Standardized databases for road traffic aspects not covered by the TIMS will also be made available to the relevant authorities. Traffic information required for planning, monitoring and control purposes, will be collected, analysed and stored by the management at all levels (local, provincial and national) according to their functions and needs.
- c. An institutional home for TIMS shall be identified and relevant data sharing institutions identified for inclusion in the programme. The Department to be connected with TIMS include: Registrar of Motor Vehicles, Ministry of Transport, Traffic Police Department, Motor Vehicle Inspection Unit, Customs and Excise Department, Association of Kenya Insurance, Transport Licensing Board (TLB), Local Authorities, Registrar of Persons, the Judiciary and all road agencies.

## **INCIDENT MANAGEMENT**

### **CRITICAL ISSUES**

- 122 Incident management, which include the provision of medical care and rescue services after accidents have occurred and appropriate transportation of hazardous substances adds to overall improvement of road transport safety in general. Currently, there are inadequate and un-coordinated incident management plans in the country.

### **POLICY**

- a. Incident management will be improved. Roads, traffic, and medical authorities will be compelled to develop, implement and operate incident management plans, aimed at improving effectiveness, efficiency and response times.
- b. Guidelines for the contents of an incident management plan will be developed. Specific attention will be given to the procedures for the management of incidents where hazardous substances are involved.
- c. Co-ordination and co-operation among various parties concerned with providing road traffic related emergency services will be improved and training for incident management developed.

## **ROAD SAFETY THROUGH PLANNING, ENGINEERING AND VEHICLE INSPECTION**

### **CRITICAL ISSUES**

- 123 Road safety policy should underscore the importance of transport planning, traffic engineering, operations management and improved vehicle conditions. These should be considered during the planning, design, construction, maintenance and evaluation phases of road improvement.

### **POLICY**

- a. Safety issues will be integrated in the provision of public passenger transport, NMIMT and roadside amenities. National guidelines on these and other relevant aspects will be developed.
- b. Uniform guidelines for traffic engineering control devices such as traffic signals, road signs and road markings and their evaluation through annual audits will be developed to enhance road traffic quality and the orderly flow of traffic at acceptable levels of service. These guidelines will take into account international best practices in road safety.
- c. The National Government will undertake periodic review of vehicle standards and enforce compliance through random and periodic vehicle inspection. Further, it will also review the provision of vehicle inspection services currently offered by the Department of Motor Vehicle Inspection Services with a view to privatizing the services to make them widely accessible and efficiently managed. The Department will, however, remain to perform a regulatory role.

## **HUMAN RESOURCE DEVELOPMENT**

### **CRITICAL ISSUES**

- 124 Disciplined operations in the passenger transport industry can best be achieved through operator and personnel education to increase ethical levels and discipline in the industry. The above are currently lacking and have led to lack of operational ethic and order.

### **POLICY**

- 125 The national and county governments in liaison with the private sector will establish and prioritize programmes to build expertise in the road passenger transport service on a continuous basis. In addition,

education and training facilities accessible to all role players shall be established to promote human resource development in road passenger transport.

## **RAILWAYS TRANSPORT**

- 126 The development of the railway policy is guided by the following principles:-
- a. The connectivity and interdependency of the railway system nationally and regionally;
  - b. Promotion of trade in the region, the sharing of resources and seamless operation across borders by the railways in the region;
  - c. Establishment of an appropriate framework within which all modes of transport can effectively compete;
  - d. Appropriate allocation of the roles of the National Government and private sector commensurate to attracting investment including private sector participation and promotion of growth;
  - e. Optimal development, maintenance and utilisation of railway infrastructure;
  - f. Promotion of fair and even competition;
  - g. Promotion of railway safety and security;
  - h. Ensuring consumer satisfaction through a wider choice and protection;
  - i. Promoting the protection of the environment and improvement of energy efficiency in the sub sector; and
  - j. Ensuring that human resource for railway operations is developed and retained.
  - k. Develop R&D in railway transport
- 127 Railway transport is the most suitable mode for haulage of goods over long distances on land. The performance of railway transport has over the years declined considerably due to lack of investment among other factors and hence the restructuring and concessioning of its management and operations. The National Government through the KRC will closely monitor the concessionaire to meet the obligations and targets set in the concession contract. The challenges and constraints facing the railways are:
- a. Stiff competition from road and pipeline transport;
  - b. Tax policies that result in the railways subsidising road transport which is its major competitor through payment of the road maintenance fuel levy;
  - c. An unreliable and aging infrastructure and rolling stock particularly the single track, bridges, telecommunication, signalling and other facilities;
  - d. Lack of investment by the National Government, KRC and the Concessionaire.
  - e. Limited railways network coverage
- 128 The above problems have resulted in poor operational and financial performance in the sub-sector.
- 129 The National Government will ensure that the railway capacity is developed and exploited fully.

## **STRATEGIC OBJECTIVES**

- 130 This policy covers issues related to railway infrastructure planning, development, maintenance, management, operations, legal, institutional and regulatory frameworks. It also covers issues related to railway safety and security, funding, human resources, environment and energy and related matters.

Its aim is to create an enabling framework that will improve in the short run the quality and efficiency of railway transport and the development of a modern, efficient, high capacity and quality railway transport system in the medium term. In doing this, railway transport must provide a service that complements other modes of transport and meets the needs of the people and the industry in a sustainable manner. The policy is expected to facilitate the development of a modern and expanded railway system that will be capable of facilitating development in the country and the region and contribute to the creation of wealth and employment.

## LEGAL, INSTITUTIONAL AND REGULATORY FRAMEWORK

### CRITICAL ISSUES

- 131 The current legal and institutional environment in which KRC operates is not conducive for its efficient decision making and operations. The Board, like that of other state corporations, is not autonomous and its decisions are still subject to government review and approvals. There is therefore need for a review of the KRC and State Corporations Acts to reduce or eliminate restrictive regulations that do not allow fast response to changes in the market environment.
- 132 The KRC Act which governs the operations of the railways was amended vide the Kenya Railways (amendment) Act 2005 to make it possible for the KRC Board to enter into a concession agreement for the provision of railway transport services. KRC monitors the concession both as an asset owner and safety regulator of RVR. The Act is, however, silent on the participation of the private sector in the development and operation of railways.
- 133 The Concession Agreement between the Government, KRC and RVR mandates KRC or railway safety regulator (if one is established) to act as the safety regulator for the railway concession this provision does not cover the regulation of the existing railway operators like Magadi Soda Company railway operations or new entrants.

### POLICY

- 134 The National Government will:
- Review the KRC and State Corporations Acts to facilitate managerial autonomy for KRC and flexibility in decision making to respond effectively to market changes and demands.
  - Facilitate private sector participation in railway development and operations.
  - Establish an independent regulator for the railway sub-sector.

## INFRASTRUCTURE DEVELOPMENT AND FINANCING

### CRITICAL ISSUES

- 135 The following are the main critical issues:
- Need to promote multi modal transport through integration of railway systems with other transport modes.
  - Need to improve the current infrastructure facilities.
  - Need to construct new modern standard gauge railway networks linking the port of Mombasa and the proposed port of Lamu to the neighbouring countries.
  - Need to develop effective monitoring system for railway concessions and other agreements
  - The funding of railways infrastructure is expensive and the Government may not have adequate funds for railway infrastructure development.

## POLICY

136 The National Government will:

- a. Facilitate financing of infrastructure provision and development.
- b. Continue to monitor the implementation of the Concession Agreement to ensure that the anticipated objectives are achieved.
- c. Facilitate the construction of a railway line connecting the Central Business District to JKIA.
- d. Initiate a long-term railway development programme aimed at phasing out the present railway system and replacing it with a modern railway network system that is well spread across the country in order to exploit unutilised resources and achieve balanced regional development.
- e. Encourage private sector investment in railway development and rehabilitation on a competitive basis.
- f. Utilise the land along the track to generate more revenue.

## RAILWAY OPERATIONS

### CRITICAL ISSUES

137 The freight and passenger services offered in the country do not fully meet the demand by the industry and the public. The freight services offered do not provide "just-in-time" (JIT) services as required by the industry. Further:

- Operational performance is affected by poor infrastructure and rolling stock
- Weak enforcement of operational regulations and procedures.
- Need to ensure that operations are well integrated with other transport modes.
- Need to ensure that operations are spread in the country in order to improve the quality of life and achieve regional development.
- Need to provide an efficient passenger railway services especially in urban areas that are accessible to all.
- Need to separate operations and management with infrastructure development and maintenance.

## POLICY

138 The National Government will:

- a. Ensure that public service obligations (PSOs) offered where necessary are compensated for. This is to ensure that railway operations do not lead to undue losses for the operator(s).
- b. Ensure that freight charges and passenger fares charged by railway operators are competitive.
- c. Provide railway infrastructure for mass rapid transport in Nairobi and its environs, undertake and implement feasibility studies for the provision of similar services in other local authorities and urban centres.
- d. Ensure that railway infrastructure and rolling stock are maintained at levels capable of supporting effective operations and the national economy. The distribution of traffic among modes shall be improved to ensure the optimum utilisation of resources for the benefit of the economy.
- e. Encourage private sector participation in operations and management and concentrate more on development and maintenance of the fixed infrastructure.



## LAND USE PLANNING AND MANAGEMENT

### CRITICAL ISSUES

139 Loss of railway operational land to private land developers.

- Encroachment on railway land reserve /corridor.
- Identification and reservation of land for the future expansion of the railways.
- Changes in land use pattern.

### POLICY

140 The National Government will:

- a. Ensure that existing land belonging to KRC is protected from further encroachment whereas the illegally lost land is repossessed.
- b. Acquire additional land for development and expansion of railways infrastructure taking into account the planned modernization programme, demographic changes and changes in industrial and agricultural production and other economic activities.
- c. Ensure that Nairobi and other major urban centres, such as Mombasa Nakuru, Kisumu and Eldoret incorporate in their development plans the need for the construction of railway networks for the operation of urban and peri-urban commuter trains.

## SAFETY

### CRITICAL ISSUES

141 Need for rehabilitation of infrastructure and rolling stock through investment as set out in the concession agreement;

- There is a need for the development and implementation of an effective safety management system which establishes and maintains safe operating, rehabilitation and maintenance standards and procedures and ensures that safety-critical and safety related positions are occupied by qualified, trained and experienced persons;
- It is necessary to ensure that all safety related maintenance and operation information is availed to persons involved to ensure safe operations.
- Need to establish an independent port and railway regulator.

### POLICY

142 The National Government will:

- a. Strengthen KRC or establish an independent railway safety regulator to licence and monitor railway operators regarding their state of safety;
- b. Ensure that infrastructure facilities and rolling stock are well maintained;
- c. Ensure that rail operators offer continuous training on safe train operations to their safety-critical staff.

## ESTABLISHMENT OF A LEVEL PLAYING GROUND

### CRITICAL ISSUES

143 Although railway transport services compete with road services, rail operators continue to be charged the Road Maintenance Fuel Levy along with other fuel consumers, thus subsidizing their competitor. The unique position where rail operators maintain their own infrastructures whereas road transport

operators do not need to be addressed. The lack of separation of railway infrastructure development and maintenance from operations does not allow the modes to compete fairly.

- 144 In addition, import duties in the transport sector should take into account the need to develop a fair competition for all transport modes. Customs duties on imported railway spares, for instance, are currently higher than those charged on completely knocked down (CKD) kits for assembling buses locally, thus placing railway transport at a competitive disadvantage.

#### **POLICY**

- 145 The National Government will:
- a. Harmonize fiscal policies to avoid subsidization of one mode of transport by another in order to encourage fair competition;
  - b. Integrate transport planning under the proposed department of transport to ensure that all the modes of transport are considered fairly.

### **HUMAN RESOURCE DEVELOPMENT**

#### **CRITICAL ISSUES**

- 146 Success in the implementation of policies herein, including rehabilitation and modernization of railway infrastructure and the installation of information and communication technology system-wide, will require highly skilled and trained manpower. The Railway Training Institute will be used for improving railway related skills. It, however, needs to be provided with modern training equipment and facilities. The training curricula should be aligned to the current and future requirements of the rail business and operations. Priority should also be given to human resource development at all levels to ensure efficient operation, management and service delivery under competitive conditions.

#### **POLICY**

- 147 The National Government will:
- a. Facilitate the acquisition, development and retention of quality human resources in all aspects of railway operation and management;
  - b. Ensure that Railway Training Institute (RTI) offers courses that are essential to railway operations;
  - c. Ensure the provision of adequate equipment and facilities for the Railway Training Institute;
  - d. Create an enabling environment for other training institutes to offer railway related courses;
  - e. Grant of autonomy to the RTI to enable it improve on curriculum and have operational independence necessary for a commercial undertaking.

### **MARITIME TRANSPORT**

#### **OBJECTIVES**

- 148 The National Government will pursue the following objectives in the maritime sub-sector:-
- a. Develop the maritime transport sector in support of the economy in general and Kenya's international trade in particular;
  - b. Develop the port of Mombasa as a main gateway to Kenya and the hinterland serving the Great Lakes region;
  - c. Develop the port of Lamu as an alternative commercial port with emphasis on developing links to Sudan, Ethiopia and Somalia (second transport corridor).

- d. Develop Free Trade zones including Dongo Kundu and Lamu
- e. Restructure the Kenya National Shipping Line as a national carrier
- f. Promote public/private partnerships in maritime transport operations and infrastructure development
- g. Develop an awareness of maritime transport issues in Kenya amongst the policy makers, the stakeholders and the general public.
- h. Ensure provision of globally competitive, quality maritime education and training for seafarers and other workers in the maritime industry.
- i. Strengthen the framework for the co-ordination of activities of service providers in line with the established policies, rules and regulations targeting among others code of conduct, cost and quality of services.
- j. Expedite the implementation of the Merchant Shipping Act, 2009
- k. Ratify and domesticate international and regional conventions, agreements and protocols
- l. To strengthen relevant institutions in the maritime sub-sector to fully deliver their mandates.
- m. Develop and enhance cruise tourism
- n. To promote the appropriate use of Incoterms by Kenyan shippers in a way that will give Kenya maximum economic benefits in the international maritime transport industry

## REGULATORY AND INSTITUTIONAL FRAMEWORK

### CRITICAL ISSUES

- 149 The principal maritime legislation is the Merchant Shipping Act (2009).
- a. Inadequate capacity is an impediment to delivery of regulatory and operational services in the sector.
  - b. Inland waterways transport is currently placed under KRC which is not the corporation's core function. This has led to deterioration of the Kisumu port infrastructure and loss of business.
  - c. Slow implementation of ratified international conventions has led to Kenya's inability to meet her international obligations including loss of business and employment opportunities.
  - d. KPA Act currently empowers KPA to run seaports along the Kenyan coastline and does not provide adequate provisions to enable KPA to operate commercially and respond to the dynamic market demands. The Act also has no appropriate provisions to encourage privatization of port services. The Act hence needs to be reviewed and harmonized with the other related Acts like the State Corporations Act so as to provide corporate flexibility to cope with the changes in the maritime transport scene.
  - e. The Kenya National Shipping Line currently operates on slot charter arrangement as a Non-Vessel Operating Common Carrier (NVOCC). This does not attract enough business to sustain the company and also does not offer training opportunities for Kenyan sea farers (sea time).

### POLICY

- 150 The National Government will:
- a. Complete the review of the existing maritime legislation to incorporate international and regional conventions, protocols, instruments and agreements on a continuous basis.

- b. Expedite the domestication of ratified international conventions and development and implementation of their respective local regulations.
- c. Strengthen Kenya Maritime Authority to fully carry out its regulatory functions.
- d. Expedite implementation of the Merchant Shipping Act 2009 by developing necessary regulations.
- e. Amend the KPA Act and KRC Act as appropriate to expand the mandate of KPA to include development and management of inland ports.
- f. Review the KPA Act with a view to enacting legislation which will enable the Authority to operate more commercially and independently and further facilitate the transformation of the port to landlord status.
- g. Restructure the Kenya National Shipping Line with a view to ensuring KNSL owns a Ship(s) to efficiently service the country's international trade, offer employment and training opportunities to Kenyans.
- h. Restructure KNSL to encourage local investment
- i. Enhance capacity in the institutions responsible for maritime affairs.

## ADMIRALTY JURISDICTION

### CRITICAL ISSUE

- 151 Kenya lacks an appropriate comprehensive local legislation for the adjudication of maritime claims. The Judicature Act, Cap 8 of the Laws of Kenya imports English law into Kenyan courts. Litigants and Judges are often thrown into a quandary while trying to keep up with the ever-changing procedures and provisions of Admiralty law in England. Some of these changes have no relevance to Kenyan court processes but have to be applied nonetheless, making the process of litigation unpredictable.

### POLICY

- 152 The National Government will enact appropriate comprehensive local legislation to be applied in the adjudication of maritime claims and thus restore confidence in the country's maritime industry.

## PORTS INFRASTRUCTURE

### CRITICAL ISSUE

- 153 The port's entrance approach channel is shallow thus restricting entry of large ships such as post-Panamax vessels. There is a need for the port to accommodate all types of ships, including post-Panamax vessels.
- The existing container terminal capacity is saturated. The growth in container traffic has put a strain on the existing facilities and compounded the congestion.
  - The port of Mombasa has not fully exploited its position as a logistics centre which can be used to support the development of industry and the export trade, although it has adequate room for the development of export processing and assembly facilities to support free port services.
  - The three Inland ICDs owned and operated by KPA have not performed well and hence have not been able to live up to their objective of diverting cargo from road to rail.
  - The port of Mombasa lacks purpose-built cruise ship reception facilities which are essential for attracting more cruise ships.

- To alleviate the growing pressure on space and capacity available at the port of Mombasa, there is need to develop other ports along the coast.

#### **POLICY**

154 The National Government will:

- a. Dredge the channel to accommodate all types of ships.
- b. Facilitate the development of Free Trade Zones (FTZs) including Dongo Kundu. This will transform the Kenyan ports to international logistics centres.
- c. Expedite plans to construct the second container terminal facility at the port of Mombasa to cater for the growing business in container traffic.
- d. Expedite plans to construct a new port at Lamu.
- e. Develop Cruise ship reception facilities at the port to promote cruise tourism.
- f. Promote development and use of ICDs by revamping railway transport services
- g. Improve and modernise port equipment and other facilities

#### **PORT OPERATIONS AND ADMINISTRATION**

##### **CRITICAL ISSUES**

155 Port operations are hampered by inefficient cargo clearing processes causing delays and rendering the port expensive and uncompetitive. Port operations also have been hampered by the poor off-take of cargo from the port by rail and road.

#### **POLICY**

156 The National Government will:

- a. Expedite the implementation of the National Single Window System and Integrated Port Security Improvement
- b. Ensure timely upgrading of the infrastructure linking the port to the hinterland in order to cope with increasing traffic from the port
- c. Co-operate with the Governments of the neighbouring countries to ensure upgrading of the infrastructure in those countries in order to cope with the increasing traffic from the port
- d. Streamline customs and other clearance procedures both at the port and at the borders to encourage business growth at the port.

#### **PORT REFORM**

##### **CRITICAL ISSUES**

157 KPA plays the roles of both a landlord and a service provider at the port of Mombasa. This dual role has partly contributed to inefficiencies in port operations.

#### **POLICY**

158 The National Government will:

- a. Review the KPA Act to transform it into a landlord port status and mandate it to oversee and regulate ports development in the country.

- b. Promote public private partnership in port infrastructure development and provision of services like stevedoring, storage, shore handling and other port operations.

## FERRY TRANSPORT

### CRITICAL ISSUES

- 159 KFS is a state corporation providing this essential social service, and hence does not levy any charges to passengers, nor does it charge commercial rates to vehicular traffic.
- a. The Government compensates albeit inadequate the corporation for the business opportunity loss through an MOU that expires in year 2010.
  - b. KFS faces a major challenge in providing a reliable service to meet the ever increasing demands for safe ferry services as a result of ageing and inadequate ferry vessels.
  - c. There has been rapid increase of passengers with limited corresponding infrastructural capacity. The ramps at Likoni channel cannot support landing of two ferries simultaneously.
  - d. The Company faces security challenges due to threats of terrorism and the vulnerability of the ferry service operations.

### POLICY

- 160 The National and County governments will:
- a. Review KFS legal framework to allow it operate commercially.
  - b. Expand and modernize KFS infrastructure to keep pace with the ever growing demand and expedite replacement of the ageing Ferries.
  - c. Facilitate diversification of KFS services into Cruise ferry services along coastal and inland waterways where there is a great potential.
  - d. Enhance and diversify sources of funding to KFS
  - e. Develop the Dongo Kundu bypass to the South Coast and the Miritini/Shanzu bypass to the North Coast to give alternative crossing routes.
  - f. Strengthen the security measures at the coastal and inland waters for safe and secure ferry operations.

## COMMERCIAL MARITIME SERVICES

### CRITICAL ISSUES

- 161 Involvement of Kenyans in the lucrative commercial maritime services such as international sea transport, shipping agency, coastal shipping, clearing and forwarding, security services, ship chandling, ship building and repairs, marine insurance, seafarers' recruitment agencies and bunkering is very minimal or non existent. Many Kenyans are at the periphery of the mainstream maritime transport logistics supply chain. Foreign companies have dominated many investments in the maritime industry. There is low level domestic participation in the industry and particularly in provision of maritime transport services. The marine resources in Kenya have also not been fully exploited.
- a. The most commonly used Incoterms in Kenya are CIF (Cost, Insurance & Freight) for imports which entail the seller paying for insurance and freight from port of departure to port of destination and FOB (Free On Board) for exports which implies that the buyer pays and arranges for insurance and shipment from the port of loading to the port of discharge. As a result of this practice the country

- loses foreign currency, revenue via taxes on transport and insurance, employment opportunities for its citizens. The development of the local transport and insurance sectors is also adversely affected.
- b. To boost the country's balance of trade, there is need to explore on viability of splitting the CIF value into cost of the imported goods which will be payable to the foreign entity and freight charges which will be paid to a local shipping company like KNSL.
- c. The maritime transport industry in Kenya is characterized by proliferation and duplication of charges/surcharges levied by maritime transport service providers on cargo owners which render our exports uncompetitive in international markets and imports unaffordable by Kenyan consumers. This also renders the cost of doing business in Kenya unnecessarily exorbitant.
- d. Kenya lacks comprehensive commercial maritime policies to address various emerging issues and global shipping trends which are of national economical significance.

#### **POLICY**

162 The National Government will:

- a. Facilitate the development and growth of shipbuilding and repairs industry as part of the industrialization programme of the maritime sector.
- b. Promote the appropriate use of International Commercial Shipment Terms (Incoterms) through creating awareness among Kenyan shippers.
- c. Promote domestic participation in the maritime logistics chain with a view to enhance returns from the sector.
- d. Enact and facilitate implementation of legislation/regulations to curb anti-trust practices or any other unfair maritime trade practices that distort the market.
- e. Encourage both the public and private sector participation in the maritime industry.
- f. Provide an enabling environment for the promotion of maritime transport in Kenya

#### **KENYA NATIONAL SHIPPING LINE (KNSL) LTD**

##### **CRITICAL ISSUES**

- 163 The KNSL is a State owned corporation formed by the Government to facilitate Kenya participates in its sea trade and enable the country to benefit from opportunities offered in the maritime industry. However, due to structural, financial, technical and legal factors it has not achieved this objective.
- a. KNSL is insufficiently supported by the Government despite the many challenges it is faced with

##### **POLICY**

164 The Government will:

- a. Restructure the KNSL to facilitate it participate effectively in the market and compete on equal ground with other players in the industry.
- b.

#### **MARITIME SAFETY AND SECURITY**

##### **CRITICAL ISSUES**

- 165 The threat of terrorist attacks and piracy has precipitated a heightened security awareness worldwide which culminated in two United Nations Resolutions: Security Council Resolution 1373 (2001) and

IMO Assembly Resolution A.924 (22) calling for redoubling of efforts to prevent and suppress terrorist acts and adoption of procedures to prevent such acts on maritime interests especially in ports and ships.

- a. There is slow pace in domestication and implementation of relevant international conventions on maritime security in Kenya.
- b. Other constraints in this area include lack of specialized maritime security personnel, inadequacy in coordination between concerned agencies, non-existence of a maritime security policy, inadequate sea and air transport facilities for security personnel, inadequate tools and equipment, including information and telecommunication technology, lack of essential skills in research in international crime and other security issues, inadequate patrol of both the territorial waters and Exclusive Economic Zone, inadequate liaison with international security agencies for exchange of data, criminal profiles and other general information.

## **POLICY**

166 The National Government will:

- a. Strengthen the existing Regional Search and Rescue Coordination Centre and expedite establishment of similar ones in inland waterways.
- b. Enhance the capacity of KMA and establish an effective maritime safety and security system in Kenya.
- c. Expedite implementation of appropriate legislation to deal with maritime safety, security, protection of the marine environment, as well as liability and compensation for pollution damage of the sea or other waters.
- d. Strengthen the National Maritime Security Committee to coordinate and advise. The National Government on maritime security issues in liaison with the national security agencies.
- e. Encourage the use of modern surveillance equipment at the ports.
- f. Strengthen the Maritime Police Unit and enhance its operational capacity in coastal and inland waters and procure patrol boats to raise its operational capacity.
- g. Strengthen community-policing groups along the coastal and lake points by co-opting representatives from the local community and stakeholders where necessary.

## **HUMAN RESOURCE DEVELOPMENT, MANAGEMENT AND RESEARCH**

### **CRITICAL ISSUE**

167 High costs of training and inadequate funding have resulted in limited human resource development for maritime sub-sector experts such as marine surveyors, accident investigators, trainers, examiners, marine engineers and marine pilots among others.

- a. The few institutions that offer maritime training are inadequately empowered and regulated in terms of implementing the curricula. In addition, there is no appropriate accreditation system for maritime training.
- b. Lack of adequate human capacity to implement international conventions with regard to regulation, management and utilisation of marine and inland water transport services leading to poor growth of the maritime industry. Whilst attraction and retention of trained human resource is a problem.
- c. The lack of Kenyan owned and registered vessels has resulted in a shortage of qualified seafarers thereby denying Kenyans, training (sea time) and employment opportunities.



- d. Kenya has not invested in scientific research and technological innovations in the maritime transport industry in order to provide the foundation for future socio-economic growth, development and sustainability. There is potential for contribution of science based innovation and evidence-based policy making to achieve sustainable development in the maritime transport industry.

## POLICY

168 The National Government will:

- a. Provide facilities and incentives to encourage training in the maritime industry.
- b. Facilitate development of maritime training institutions and accreditation procedures to implement the maritime curriculum.
- c. Expedite implementation of the Merchant Shipping Act 2009 to enable the country meet STCW obligations.
- d. Encourage investment in ship ownership to enhance commercial shipping, employment and training opportunities.
- e. Introduce research programmes that are geared towards the development of maritime industry in Kenya.
- f. Develop appropriate policy on maritime safety education.

## INLAND WATER TRANSPORT

### STRATEGIC OBJECTIVES

169 The strategic objectives in the area of inland water transport are to:

- a. Promote the development of a vibrant inland water transport on Lake Victoria (LV) by developing a seamless integrated multi-modal transport system in the Northern Corridor to facilitate Kenya's trade with the EAC partner states and with the land-locked countries in the Great Lakes region;
- b. Promote the exploitation of the full potential of the Lake Basin in Kenya and its resources in agriculture, industry and tourism as part of the National Governments long term development strategy as envisaged in Vision 2030.
- c. Develop inland water transport for the exploitation of marine resources on Kenyan lakes (including Lake Victoria, Turkana and Naivasha) and on rivers (such as Athi, Tana, Yala and Nzoia rivers).
- d. Promote the efficient use of inland water transport in providing a cheap transport mode for the movement of passengers and goods within the Nyanza Gulf of the Lake Basin in order to stimulate domestic and international trade;
- e. Encourage investment in the provision of water transport services in Kenya's lakes and rivers;
- f. Increase the tourist potential in the Lake Basin and in all other inland water bodies through inland marine transport;
- g. Promote private sector participation in the provision of inland water transport services;
- h. Promote the development of human resources in the area of inland marine transport;
- i. Ensure safety of passengers and goods on Lake Victoria and in other inland waters;
- j. Promote environmental safety in the management of inland water transport; and
- k. Explore the potential for developing new water transport services in Kenya's lakes and rivers, including the possibility of building canals.

# NAVIGABILITY OF LAKES AND RIVERS IN KENYA

## CRITICAL ISSUES

- 170 For a long time, the focus on inland water transport has remained only on Lake Victoria. There is need to undertake hydrographic surveys in other Lakes and rivers such as Lakes Turkana and Naivasha or rivers Tana, Athi, Yala and Nzoia, among others as it is being done in Lake Victoria. Safety of inland water transport by use of mainly traditional technology for fishing has not been addressed adequately.
- 171 In recent years, the growth of the hyacinth weed on LV has considerably affected vessel movements on the lake and even clogged ports and piers. Efforts by The National Government to clear the weed have not yielded positive results.

## POLICY

- 172 Both the National and County Governments will:
- Determine the navigability of major lakes and rivers in the country with a view to promoting the use of inland water transport and enhance their safety.
  - Ensure that all littoral modes of transport (i.e. road, pipeline and railway transport) are planned in a coordinated manner to enhance their mutual complementarities, considering the importance of commercial use of LV for passenger, freight transport and fishing as well as for tourism.
  - Ensure that the problem of water hyacinth is addressed within aegis of the EAC, as a transport problem.

## REGULATORY FRAMEWORK

### CRITICAL ISSUES

- 173 The KRC Act vests the Authority to manage and control inland waterways and ports in it. This is not a core mandate of KRC and therefore has led to neglect of infrastructure, operations and management of inland water ways services.

### POLICY

- 174 The National Government will:
- Review the KRC Act and transfer the responsibilities of inland water ports development, operations and management to KPA and where appropriate to the private sector.
  - In conjunction with other partner states develop regulations and facilitate operationalization of both Merchant Shipping Act 2009 and Lake Victoria Transport Acts to address Lake Survey, seaworthiness and registration requirements for vessels, vessel registration and safety.

## INFRASTRUCTURE

### CRITICAL ISSUES

- 175 The port of Kisumu which is the major inland water port is about 100 years old. There has been no major improvement on infrastructure and equipment and therefore they are obsolete and unreliable.
- 176 The oil terminal operated by the Kenya Pipeline Company Limited and served by the oil jetty, is located 12km away from the port, making the transfer of fuel between the two terminals cumbersome.

### POLICY

- 177 The National and County Governments will:
- Ensure that the maintenance and rehabilitation of port infrastructure and facilities in Kisumu and

at piers along LV is undertaken as required.

- b. Explore the possibility of identifying more points to be designated and developed as ports and piers for development along the shores of LV and along other inland waters;
- c. Promote the participation of the private sector in the maintenance, rehabilitation and development of infrastructure and in the operation of inland water transport services.
- d. Ensure extension of the pipeline to Kisumu port to facilitate the discharge and loading of petroleum products.
- e. Ensure all littoral roads within the lake basin are improved in tandem with other modes of transport in an integrated manner and on a sustainable basis to ensure continuous multi-modal complementarities and connectivity. In particular, all access roads that connect the main littoral roads to the piers with the main roads shall be properly maintained; this shall apply to all roads connected to other inland waters.
- f. Ensure the implementation of KRC Lake View Resort City project.

## INLAND WATER TRANSPORT SERVICE OPERATIONS

### CRITICAL ISSUES

- 178 Inland waterways transport operations are presently low key due to low investment in the sector. Most of the vessels which used to ply Lake Victoria have either broken down or been surveyed and disposed of. This has led to inland water transport in Kenya playing a negligible role in both local and regional trade. In addition the port of Kisumu which is part of the Northern Corridor transport system needs to be efficiently operated.
- 179 Another constraint to inland water transport is the low capacity of the Nakuru-Kisumu railway track which makes port of Kisumu route less attractive for transit to Uganda and other land-locked countries.
- 180 The largest vessel owned by KRC is the MV Uhuru, a wagon ferry with a cargo capacity of 1,200 tonnes (equivalent to 22 wagons). This vessel was conceded to the railway operator (RVR) and is currently non operational. It has been difficult to rehabilitate the vessel to Lloyds specifications due to its age and other factors.
- 181 In recent years, the growth of the hyacinth weed on LV has considerably affected vessel movements on the lake and even clogged ports and piers. Efforts by The National Government to clear the weed have not yielded positive results.

### POLICY

- 182 The National and County Governments will:
- a. Promote development of inland water transport on LV in order to divert cargo from road to rail and marine transport.
  - b. Promote private sector participation in operations of vessels on LV and other inland waters.
  - c. Implement the provisions of the Merchant Shipping Act 2009 on streamlined ship registration requirements.
  - d. Ensure that railway operations are separated from inland water transport services.
  - e. Upgrade the Mau Summit-Kisumu rail section to enable high capacity locomotives to ply the Nakuru-Kisumu branch line.
  - f. Ensure the planned standard railway gauge track (Mombasa-Kisumu) takes into account the critical importance of integrating railway and inland waterways transport with other modes of

transport, in the context of promoting Kenyan trade within the Great Lakes region.

- g. Spearhead efforts to eradicate the water hyacinth menace in LV.

## **SAFETY AND ENVIRONMENTAL ISSUES**

### **CRITICAL ISSUES**

- 183 Maritime safety measures on LV were not strictly enforced in the past thus resulting in high number of accidents in the lake. It is also apparent that navigational aids, communications and safety equipment in most vessels and on land are inadequate and in poor condition. Another factor is the lack of up-to-date meteorological information for the navigators.
- KMA regulatory presence in inland waterways is not felt due to inadequate capacity.
  - Water hyacinth is both an environmental and navigational menace that requires concerted efforts to clear in a sustainable manner.

### **POLICY**

- 184 The National Government will:
- a. Ensure safety laws are harmonised (EAC) and enforced to enhance safety and environmental protection in inland waterways.
  - b. Establish an Inland Maritime Police Unit and empower it with adequate resources to ensure policing of the LV and other inland waters.
  - c. Ensure that transportation of petroleum products and other dangerous goods through LV are subject to international safety standards.
  - d. Ensure that the problem of water hyacinth is addressed within aegis of the EAC as an environmental hazard.
  - e. Enhance the capacity of KMA to effectively regulate inland water transport services.
  - f. In collaboration with Uganda and Tanzania ensure that there is adequate meteorological information for safe operations of transport in Lake Victoria.

## **INLAND WATERS AND TOURISM**

### **CRITICAL ISSUES**

- 185 Inland water transport on LV is not properly integrated with all other modes to make it a catalyst to the opening up of Western Kenya as an important tourist circuit. With an integrated multi-modal transport system in place, even the possibility of investment in a floating hotel, Lake View Resort City or a cruise ship plying various ports in Kenya, or within East Africa, would become a real investment possibility.

### **POLICY**

- 186 The National Government will ensure that the development of water transport on Lake Victoria and its environs is undertaken in collaboration with all stakeholders to serve amongst others the tourism industry.

## **HUMAN RESOURCE DEVELOPMENT**

### **CRITICAL ISSUES**

- 187 KRC has a Marine Training School at Kisumu which is currently non-operational. The National Government. This should be retained within an appropriate institutional structure as part of its contribution to the development of human resources in the area of inland marine transport services.

- 188 There is a need for the marine services section in Kisumu to be strengthened and manned by highly qualified and adequately motivated personnel operating within a commercially oriented environment that provides services in accordance with the needs of the customers.

#### POLICY

- 189 The National Government will rehabilitate, upgrade and retain the marine training school in Kisumu and ensure that its courses are recognised internationally.

#### PIPELINE TRANSPORT

##### STRATEGIC OBJECTIVES

- 190 The specific strategic objectives will be to:
- a. Provide and maintain adequate infrastructure for an efficient and sustainable pipeline transport network that is competitive within the country and internationally.
  - b. Ensure safety of life, property and environmental sustainability;
  - c. Ensure security for pipeline infrastructure to enhance reliability;
  - d. Encourage private sector participation in the provision of pipeline infrastructure and in the operation of services;
  - e. Minimize road damage by heavy goods vehicles carrying refined petroleum products by transporting these products through pipeline up to the delivery depots;
  - f. Develop local capacity for design, supervision and maintenance of the pipeline and ancillary facilities through human resource development;
  - g. Ensure that the full potential for Kenya's pipeline transport system is developed and exploited for petroleum and other products to promote the achievement of the country's development objectives; and,
  - h. Enhance utilization of ICTs in product monitoring and management.
- 191 The National Government will ensure that pipeline transport capacity is adequate and competitive through the formulation and implementation of policies to improve pipeline infrastructure planning, development and operations.

#### CRITICAL ISSUES

- 192 The need to ensure adequate and reliable supply of petroleum products for all sectors of the economy, enhancement of energy conservation and efficiency, and ensuring that the National Government does not lose revenue through diversion of petroleum products meant for the export market.

#### POLICY

- 193 The National Government will:
- a. Facilitate the expansion of the pipeline system within the country and internationally as found to be economically feasible to match growing energy demand and retaining competitiveness of the sub sector
  - b. Develop and enforce energy saving measures that will focus on energy conservation and efficiency.
  - c. Institute measures that will discourage fuel transportation by road in areas already served by the pipeline.

## REGULATORY AND INSTITUTIONAL FRAMEWORK

### CRITICAL ISSUES

- 194 Kenya Pipeline Company Ltd (KPC) operates under the Companies Act cap 486 of the laws of Kenya, also functions as a parastatal within the context of the State Corporations Act and is regulated by the Energy Act 2006. There is therefore need to review and harmonize relevant legislations governing the sub sector. The greater emphasis of the product the company transports has overshadowed the critical importance of its transport responsibilities.

### POLICY

- 195 The National Government will:
- Formulate appropriate regulations through the Energy Regulatory Commission (ERC) to govern the development and operation of the pipeline sub-sector.
  - Streamline the operations of KPC with a view to ensuring that it operates in the most efficient manner.

### PIPELINE OPERATIONS

- 196 The construction of pipeline system was to ensure efficient, reliable, safe and cost effective means of transporting petroleum products from Mombasa to the hinterland. The capacity enhancement of the pipeline will also significantly reduce the number of vehicles transporting petroleum products from Mombasa to the Western Kenya. Real benefits of pipeline transport hinge on its ability to offer least-cost transportation of fuel and its ability to attract traffic (tankers) away from roads. The fact that companies still transport petroleum fuels from Mombasa by road reflects inadequate pumping capacity and pricing discrepancy that needs to be resolved.

### CRITICAL ISSUES

- The mandatory requirement by KPC to new oil companies to maintain minimum stock levels equivalent to 2,400 m<sup>3</sup> has limited the pipeline's access to most small oil companies. Many of these small companies have ended up transporting their fuels by road from Mombasa.
- Incompatibility of common user facilities at KPC terminals with other modes of transport (road and railway). The differentials between prices of petroleum fuels in the country are attributed mainly to the existence of lack of common-user truck loading facilities. Parts of the country where KPC terminals have put up these common user facilities have been observed to have lower consumer prices.
- Lack of a tariff review policy. The pipeline tariff also contributes to the overall price of petroleum products in the country.
- Inefficient operations of the company results in higher consumer prices for petroleum products and affect economic productivity.

### POLICY

- 197 The National Government will:
- Own the dead stock held in the pipeline to encourage small companies to make use of the transport facility. Implement the provision of gazette notice No. 43 and 44 dated April 2008, by the Minister for Energy which issued a new regulation No. 12 in the Energy Act directing that strategic stock be procured by NOCK and maintained in the facilities of KPC on behalf of the National Government. Need to develop a flexible mechanism that will encourage small oil companies currently restricted by the minimum stock requirements to use pipeline transport.

facilities.

- b. Develop a tariff policy that ensures that KPC tariffs are competitive.
- c. Ensure development of common user facilities that are convenient and compatible to all modes of transport.
- d. Streamline the operations of KPC with a view to ensuring that it operates in the most efficient manner.

## **INTEGRATING PIPELINE INFRASTRUCTURE WITH OTHER MODES OF TRANSPORT**

### **CRITICAL ISSUES**

198 The aging infrastructure is a challenge in realising optimal operations of the pipeline.

- The design of the loading facilities at some of the major depots are incompatible with the configuration of railway wagons and trucks, leading to relatively lower intakes than could be achieved by their available capacity. This calls for integration of pipeline with other transport modes.
- Limited coverage of the pipeline network in other big consumer areas and the neighbouring countries.

### **POLICY**

199 The National Government will:

- a. Ensure Pipeline rehabilitation on a continuous basis.
- b. Ensure the integration of pipeline transport mode with other modes, particularly railway and road transport and their ancillary facilities
- c. In collaboration with other regional partners, the pipeline will be extended from Eldoret westwards to Uganda and Rwanda.

## **PIPELINE OWNERSHIP**

### **CRITICAL ISSUES**

200 The Kenya Pipeline Co. Ltd. (KPC) is 100 percent owned by the National Government. This arrangement impacts on its efficiency and management.

### **POLICY**

201 The National Government will encourage private sector participation in pipeline ownership and operation in accordance with the provisions of the Privatisation legislation.

## **PIPELINE SAFETY AND SECURITY**

### **CRITICAL ISSUES**

- 202 Although KPC has enjoyed a considerable amount of security in its operations and of its assets, there have been few cases of vandalism where attempts have been made to puncture the pipeline and loss of petroleum fuels. KPC allocates substantial financial resources to enhance security of the pipeline.
- 203 Strict adherence to minimum standards on health, environment and safety are critical in pipeline development and operation. The operational procedures in place presently are based on international standards in which product safety both to users and the environment are guaranteed. Mushrooming of informal settlements along the pipeline way leave is posing a danger to the pipeline, inhabitants and the environment.

## POLICY

- a. The National Government will collaborate with KPC to enhance security of the pipeline installations.
- b. Energy Regulatory Commission (ERC) will set standards for safety of the pipeline transport system and ensure compliance with those standards.
- c. The KPC will secure the pipeline way leave from human encroachment.

## HUMAN RESOURCE DEVELOPMENT

### CRITICAL ISSUES

- 204 Given the dynamics in applicable pipeline technologies, there is need for continuous professional development and training to adequately equip staff to meet the current and future challenges of the industry. The Company's intention to be an e- organisation calls for special emphasis on human resource training for which the company has made adequate provision. The challenge is to attract and retain highly trained and competent manpower to meet the challenges of the industry.

## POLICY

- 205 The National Government will develop policies which will enhance capacity building within the pipeline industry.

## AVIATION

### GUIDING POLICY PRINCIPLES

- 206 The principal policy objective is to create an enabling framework that will nurture the development of a safe, efficient and affordable air transport system, whilst keeping at the leading edge of technological advancement in a rapidly changing and globalize environment. The key policy principles guiding the formulation of aviation policy are:
- a. Kenya is a signatory to the Chicago Convention of 1944 and its Annexes;
  - b. Appropriate allocation of roles between the government, private sector and civil society commensurate to attracting investment, promoting growth and facilitating private sector participation in the aviation sector;
  - c. Promoting aviation safety and security;
  - d. Optimal development, maintenance and utilisation of air transport infrastructure;
  - e. Promoting fair competition;
  - f. Ensuring consumer satisfaction and protection;
  - g. Development and retention of human resources in the sub-sector;
  - h. Formulation of clear dispute resolution arrangements;
  - i. Protecting the environment;
  - j. Promoting local participation in the industry to boost national investment; and
  - k. Observing strict enforcement of regulatory mechanisms to enhance industry order and discipline.



## AVIATION INFRASTRUCTURE

### CRITICAL ISSUES

207 Air transport infrastructure including runways, air navigation systems, terminal buildings, utilities, control towers and buildings housing radar stations are not in a satisfactory state of repair and hence require rehabilitation.

- The linkage between air transport infrastructure and the need for emergency medical aid and/or disaster management is largely missing. In many of the well-equipped hospitals, there is lack of adequate landing facilities for emergency medical evacuation operations.
- ICT is central to the enhanced efficiency and cost effectiveness in the development, operation and management of aerodromes and other related facilities in the aviation industry. Kenya's aviation industry has not fully benefited from the potentials offered by ICTs in improving security and quality of service. In terms of technological capabilities, there is need for the existing systems to accommodate technological advancements.
- Worldwide, airports have acted as magnets for the development of other value-adding investments such as hotels, sport facilities, industrial parks, business parks and shopping centres, among others. Kenya's airports need to put in place appropriate mechanisms to exploit these business opportunities.
- There is lack of sufficient and effective linkages between airports and other transport modes, in particular railways and ports. Roads that serve airports, for instance, need to be improved to provide optimal linkages between the airports and other centres of economic activities.
- Human encroachment on land reserved for future development of airports jeopardises the potential development of the country's airports into reputable, safe and secure destinations for air travel and has to be checked.
- There is need to ensure that airports countrywide provide the requisite services to retain Kenya as the hub of choice in the region.
- Current terrestrial based CNS/ATM system infrastructure does not fully meet air traffic operational requirements in accordance with Africa and Indian Ocean (AFI) plan, which is hampered by inadequate funding, among other factors.
- Inadequate well-trained technical personnel
- Vandalism of vital air navigation installations
- Most of the aerodromes, particularly the unmanned ones generally lack adequate navigation equipment and maintenance.
- Despite the ongoing expansion and capacity upgrading programmes of major airports, given the projected growth in traffic volumes, the airports will soon be saturated and hence will not have adequate land for expansion in the long run.

### POLICY

208 The National Government will:

- a. Modernise and fully integrate air transport infrastructure to maintain Kenya as the preferred aviation and commercial hub in the East, Central and Southern African Region.
- b. Improve runways, air navigation systems, airport facilities including terminal buildings, utilities and control towers through appropriate planning.
- c. Enhance safety and expedite flow of air traffic in a cost effective manner.
- d. Facilitate public and private sector participation in infrastructure development in the aviation industry

- e. Repossess all illegally acquired aerodrome land
- f. Ensure properly maintained, equipped and manned minor aerodromes in each of the counties.
- g. Construct light rail transport systems to connect JKIA and Moi International Airport with respective CBDs.
- h. Develop and maintain a satellite based CNS/ATM system to meet present and future air traffic operational requirements.
- i. Ensure that air navigation installations are properly guarded from acts of vandalism.
- j. Ensure that there are adequate well trained personnel for the aviation industry.
- k. Identify an alternative site away from the existing airport with adequate land for the construction of a second international airport to serve the capital city.

## INTEGRATING AVIATION SERVICES WITH THE NATIONAL ECONOMY

### CRITICAL ISSUES

209 Currently aviation transport infrastructure is not well linked to other transport modes hence it does not fully facilitate trade. It does not also adequately foster growth of the agricultural industry, support tourism, or facilitate manufacturing industry.

- Certain areas, particularly the northern and eastern parts of Kenya, are inadequately served by air transport.
- The pre-export logistics are uncoordinated and lack adequate cold storage facilities.
- Aviation infrastructure and services to handle passenger, freight, mail and cargo are inadequate at most airports.

### POLICY

210 The National Government will:

- a. Develop and maintain strategic aviation infrastructure and services to all parts of the country
- b. Ensure the development of aviation infrastructure is in tandem with the technological advancement.
- c. Ensure aviation policy implementation achieves integration and increased accessibility of all transport modes serving airports and productive areas of the economy.
- d. Promote coordinated pre-export logistics and develop adequate cold storage facilities.

## MANAGEMENT OF AIRPORTS

### CRITICAL ISSUES

211 Kenya's aerodromes rely heavily on aeronautical and other user charges to finance development and management of airport infrastructure and services.

- Airport management is still not fully autonomous in making key operational, financial and investment decisions, such as determination of user tariffs.
- Most of the minor aerodromes are considered to be financially and economically unviable. This manifests itself in the serious problems seen in terms of their operation and maintenance.
- Most aerodromes are affected by some safety, security and operational issues as listed below:
- Bird Strikes

- Lack of comprehensive maintenance management systems
- Congestion at terminal buildings
- Encroachment of land for airport expansion
- Lack of up-to-date functional information systems (for weather, flight, etc.)
- Lack of adequate support services and their back-ups e.g. lack of water
- Serviceability of ground NAVAIDS not fully complying with the required standards

## POLICY

212 The National Government will:

- a. Promote private sector participation in the development, operation, ownership and management of aerodromes.
- b. Ensure improved operational, commercial and financial performance of aerodromes
- c. Ensure the minor aerodromes which are economically unviable but critical are provided with sufficient funding for development, maintenance and management.
- d. Promote non-aeronautical sources of revenue for airport infrastructure development and maintenance.
- e. Provide KAA with the requisite autonomy in the determination of user tariffs.
- f. Ensure that land reserved for airport expansion is safeguarded from land encroachment by issuance of title deeds to KAA.
- g. Ensure that incidences of bird strikes at airports are minimized through regulating land use in and around airports.
- h. Ensure safety and security of airports through compliance with ICAO SARPs

## AIRSPACE MANAGEMENT

### CRITICAL ISSUES

- 213 There is insufficient requisite managerial and operational capacity to oversee optimal airspace utilisation. Large portions of the airspace are prohibited, restricted or declared danger areas for civilian use making it cost inefficient to users.
- Economic potential of outer airspace has not been fully exploited through participation in airspace programmes.

### POLICY

214 The National Government will:

- a. Formulate a comprehensive airspace planning and management policy to ensure an optimal utilization of airspace between civil and military operations
- b. Formulate a comprehensive outer space planning and management policy to ensure effective utilization of outer space.

## AVIATION SAFETY

### CRITICAL ISSUES

- 215 Frequent safety audits done by ICAO have noted flight safety related deficiencies which Kenya needs to address to ensure that its flight safety standards are in conformity with ICAO Standards and Recommended Practises (SARPs) as contained in Annexes 1, 6, and 8 associated guidance material and good aeronautical practices
- KCAA continues to face challenges in executing its mandate, occasioned by: lack of adequate qualified and well trained technical personnel; inadequate funding; inadequate national regulatory provisions, among others
  - Kenya's aviation safety standards are also compromised by lack of adequate facilities, and irregularities by some air operators such as under-logging of hours and under-pricing.

### POLICY

- 216 The National Government will:
- a. Ensure conformity of Kenya's Flight Safety Standards to ICAO SARPs and internationally recognized standards.
  - b. Ensure that aviation training institutions are adequately supported in order to train and attract qualified personnel and to acquire and maintain the required facilities.
  - c. Ensure regular reviews of the country's Air Navigation Regulations are undertaken in order to keep them in conformity with ICAO SARPs;
  - d. Develop a system to conduct surveillance and supervision of designated flight examiners, certification and supervision of aviation training schools and approval of training courses;
  - e. Ensure continuous review of the regulatory provisions governing licensing.
  - f. Enhance the ability to conduct satisfactory levels of operation surveillance which has been occasioned by inter alia lack of adequate qualified staff.
  - g. Ensure adequate provision of proper equipment, regulatory and information system tools to enhance flight safety.
  - h. Enhance the level of continuing airworthiness surveillance and oversight of commercial air transport operators as well as other domestic air operators and aircraft maintenance organisations
  - i. Ensure the existing legislation is revised from time to time to keep it abreast with changes taking place in the industry in compliance with ICAO Standards.

## AIRCRAFT ACCIDENT INVESTIGATIONS

### CRITICAL ISSUES

- 217 Lack of an autonomous aircraft accident investigation and prevention entity , inadequate funding and poor facilitation. As a result there is lack of effective accident investigation and follow-up of implementation of safety recommendations.
- Lack of regional approach to accident investigations in line with ICAO recommendations.

## POLICY

218 The National Government will:

- a. Establish an Autonomous National Aircraft Accident Investigation entity.
- b. Pursue regional cooperation in accident investigation in order to better harness the resources available within the region.
- c. Develop regulations governing accident investigations in accordance with Annex 13 to the ICAO Convention and establish a mechanism for ensuring regular amendments to keep abreast of international standards and practices.

## AVIATION SECURITY

### CRITICAL ISSUES

219 The current aviation security arrangements at the airports are not ideal since the airport management has no direct control over the national Police who provide backup to the Authority's own security personnel.

- Lack of adequate coordination between KCAA, KAA and Central Government security agencies as well as challenges occasioned by terrorist attacks have exposed weaknesses in the country's aviation security system.
- The security lapses as brought out by the September 11 events resulted in a failure or a perceived failure to secure aircraft, passengers and freight from threats on the ground and in flight. In addition, they have adversely affected Kenya's quest for FAA Category I classifications.
- Inadequate security arrangements to deter incidences of vandalism of air navigation installations are major issues of concern.

## POLICY

220 The National Government will:

- a. Ensure the Airports Authority has the requisite oversight for all the security personnel serving the airports.
- b. Ensure adequate security for air navigation installations, enhancement and harmonisation of aviation security systems in accordance with ICAO annex 17.
- c. Ensure that passengers, aircraft personnel, luggage, cargo and aircraft are secured, both on the ground and while in flight and
- d. Ensure all air navigation installations are secured from intruders.

## SEARCH AND RESCUE

### CRITICAL ISSUES

221 Lack of requisite operational capacity at KCAA hampers efficient delivery of aeronautical search and rescue services at the national and regional levels.

- Lack of proper framework for coordination between aeronautical and maritime search and rescue operations.

## POLICY

222 The National Government will:

- a. Develop a proper framework to coordinate aeronautical and maritime search and rescue operations.
- b. Ensure adequate equipment and maintenance of search and rescue centres.

## BIOLOGICAL, CHEMICAL AND OTHER FORMS OF THREATS TO CONSUMER AND NATIONAL HEALTH

### CRITICAL ISSUES

223 Lack of adequately equipped and trained personnel to deal with port health, dangerous pests, diseases and noxious weeds, and international garbage.

- Inadequate human, plant and animal quarantine and other facilities like incinerators at the airports to meet requisite international standards.
- Lack of sufficient public awareness of the dangers of importing pests, disease and noxious weeds
- Shortage of personnel to effectively police trade in dangerous plants.
- Inadequate capacity to deal with international garbage and lack of adherence to regulations on importing plants by airlines
- Ineffective enforcement of disinfection procedures for aircraft landing in Kenya from other origins.

### POLICY

224 The National Government will:

- a. Ensure there is adequate human, plant and animal quarantine and other facilities like incinerators to meet requisite international standards.
- b. Ensure the personnel dealing with dangerous pests, diseases and noxious weeds, and international garbage are adequately equipped and trained.
- c. Promote public awareness regarding the dangers of importing pests, disease and noxious weeds.
- d. Ensure strict enforcement of regulations regarding importation of plants by airlines.
- e. Ensure effective implementation of disinfection procedures against biological, chemical and other threats to consumer and national health transported to Kenyan aerodromes.

## LAND USE WITHIN AND AROUND AERODROMES

### CRITICAL ISSUES

225 Uncoordinated and conflicting land use arrangements around aerodromes which endanger aviation safety and security as well as compromise aerodrome viability.

- A number of aerodromes have faced encroachments by human settlements, high rise buildings and unplanned commercial activities.

### POLICY

226 The National and County Government will:

- a. Ensure enforcement of land use planning regulations in and around airports.

- b. Repossess aerodrome land which has been encroached on and ensure developments and commercial activities around the airports strictly adhere to laid down by-laws and regulations.
- c. Secure and reserve land for future expansion of aerodromes.

## AIR COMMERCE

### CRITICAL ISSUES

227 The development of the aviation sector is constrained by several factors, including:

- High tariffs on cargo (despite the exemption of air cargo carriers from import duty on jet fuel and fuel oil under Legal Notice No. 229 of August 1992);
- The collapse or weakening of the relevant cooperatives in the country leading to weak bargaining power of small-scale farmers. Low value added in the bulk of the exports;
- Uncoordinated logistics, including lack of cold storage for perishable goods and lack of integrated transport modes;
- Licensing of irregular ad hoc ("pirate") cargo operators who often under-cut regular scheduled air cargo transporters leading to higher tariffs.
- High cost of jet fuel which has been worsened by the credit crisis in international financial markets.

### POLICY

228 The National Government will:

- a. Ensure integration of air transport sector with other transport modes to facilitate a seamless multi-modal transport network.
- b. Formulate procedures for authorising ad hoc cargo operators to avoid unfair competition and safeguard the interests of licensed scheduled air cargo operators.
- c. Promote agro-processing of agricultural products through further local processing in order to increase value-added.
- d. Pursue the development of each airport into a logistical hub through the development of productive and commercial activities as well as logistics that could be linked to main airports in the country with a view to enhancing their economic viability.
- e. Ensure traffic trends for both cargo and passengers are done and analysed on a regular basis to provide a source of investment information.
- f. Ensure liberalization of air transport within COMESA under COMESA Legal Notice No. 2 of 1999 and in the African region through the provisions of the Yamoussoukro Decision (YD) to promote fair competition.
- g. Implement where appropriate the recommendations of the 5th Worldwide Air Transport Conference of 2003.

## LIBERALIZATION

### CRITICAL ISSUES

- 229 The domestic market lacks an effective regulatory framework for ensuring a level playing field for all operators.
- Existing competition laws are not suitable for the exigencies of the aviation sector.

## POLICY

230 The National Government will:

- a. Ensure that Kenya's national interests are catered for in regional, sub-regional and international air service negotiations and agreements within the context of liberalization
- b. Ensure that the provision of air services between Kenya and other States is governed by the principles of equal opportunity and mutual reciprocity.
- c. Ensure a gradual, orderly and progressive liberalisation, taking into account the high technical and economic investment in the industry.
- d. Continue to support the policy of avoidance of double taxation for Kenyan designated airlines.
- e. Ensure that there is a proper balance between protection of national interests and the need to encourage foreign investment.

## SCHEDULED AND NON-SCHEDULED AIR SERVICES

### CRITICAL ISSUES

231 Although multi-designation has promoted development among Kenyan air carriers, and enhanced their contribution to the industry, there is a need to distinguish between the ownership of airlines requiring designation and those not seeking designation. In line with the international norms with respect to ownership of designated airlines, there is need to retain substantial ownership and control of airlines designated as a national carrier in Kenya in the hands of the citizens.

- There is inadequate local participation in the airline industry through partnership with foreign investors.
- The local industry is currently dominated by non-scheduled flights, which do not provide optimal services to various parts of the country.

### POLICY

232 The National Government will:

- a. Ensure continued multiple-designation of Kenyan airlines, to serve regional and international routes under the relevant bilateral or multilateral air services agreements.
- b. Ensure qualifications for airline designation are based on the merits of each case and also formulate both the criteria for designation and withdrawal of airline designation taking into cognisance the existing regional arrangements such as EAC, COMESA, and Yamoussoukro Decision
- c. Ensure the criteria for licensing of air services is strictly adhered to.
- d. Formulate modalities for the issuance of short term permits to ensure the operations of long term carriers are not subjected to unfair competition.
- e. Develop criteria to govern long term wet leasing of aircraft in order to utilize available local expertise.
- f. Support unscheduled domestic charter operations to enable them to grow into domestic scheduled operations with a view to enhancing industry efficiency and optimal support to other sectors of the economy.
- g. Ensure continuous review of the regulations governing licensing of air operators with a view to keeping them in tandem with the development in international aviation.



## MARKET SHARING AND ACCESS

### CRITICAL ISSUES

233 While code-sharing has assisted Kenya in increasing market access including tourism, concerns have been raised that it is and could be used to circumvent the provisions of BASAs. There is no clear policy to define how airlines compete in the domestic market under franchising.

- There is a conflict between franchising and regional arrangements such as EAC and COMESA.

### POLICY

234 The National Government will:

- a. Ensure that all code sharing agreements negotiated at bilateral and multilateral platforms provide for adequate reciprocity and safeguard the national interests in terms of economic gains.
- b. Ensure third party sharing arrangements are made in accordance with BASA principles so long as they do not conflict with domestic, regional and sub-regional agreements and provided they contain clearly defined potential benefits to Kenya.
- c. Encourage Intra-African and Intra-COMESA code-sharing arrangements and those made with airlines within the East African Community (EAC), so long as they do not undermine, respectively, rules of competition under the YD and under COMESA Legal Notice No. 2 and similar arrangements under the EAC Agreement.
- d. Ensure there are no restrictions on code sharing arrangements among Kenyan airlines so long as they are beneficial to the parties and to the country's economy and do not infringe on Kenyan competition laws.
- e. Ensure all guiding principles governing all franchise agreements are similar to those for code sharing in respect of domestic, EAC, regional and international markets and that they are in line with existing agreements/policies with potential benefits accruing to the national economy.
- f. Promote the development of airline alliances that add value to the air transport industry and the national economy.

## HUMAN RESOURCE DEVELOPMENT

### CRITICAL ISSUES

235 Current costs of training aviation personnel are too high and this has resulted in limited human resource development for aviation sub-sector experts such as airworthiness inspectors, accident investigators, trainers, examiners, air traffic controllers and pilots among others

- The Institutions that offer aviation training are inadequately regulated in terms of their establishment and the curricula. In addition they lack a comprehensive aviation training curriculum; an appropriate accreditation system for aviation experts locally to facilitate the growth of training institutions in an organized manner; and adequate training equipment locally resulting in trainees seeking training opportunities in other countries. None of these institutions have their curricula certified by KCAA as required, bringing into question the quality and competence of the personnel that they train.
- Funding for aviation training is inadequate.
- Attraction and retention of trained human resource is a problem.

- Inadequate licensing, approval and regulation of training schools and an emerging human resource generation gap in aviation.

#### POLICY

236 The National Government will:

- Facilitate the training at affordable costs, curricula development approval and certification of aviation training institutions and personnel.
- Provide adequate resources to train qualified personnel in all cadres.
- Ensure attraction and retention of experts in aviation industry.

#### INSTITUTIONAL FRAMEWORK

##### CRITICAL ISSUES

237 The institutional management of the aviation industry lacks efficiency and separation of powers.

- Currently the Kenya Civil Aviation Authority (KCAA) performs the role of the industry regulator and service provider, thus resulting in possible conflicts of interest.
- There is lack of clear responsibility for operation and maintenance of minor aerodromes. Further, aerodrome operators lack authority to coordinate security matters at aerodromes.

#### POLICY

238 The National Government will:

- a. Develop an appropriate institutional framework that clearly delineates the functions of policy making, regulatory and service provision in the aviation sector.
- b. Facilitate the development and implementation of service charter for the entire aviation industry.
- c. Ensure that a framework for interagency is established to enhance wider participation by industry players for purposes of enhancing consultations to facilitate growth.

#### LEGAL AND REGULATORY FRAMEWORK

##### CRITICAL ISSUES

239 Cap. 394 and Cap. 395 are not harmonized in respect of aerodrome licensing, regulation, inspection.

- The State Corporations Act is a constraint to the operational and financial autonomy of both KCAA and KAA
- There is uncertainty over the ownership and control of unmanned aerodromes.
- Some of the Air Services Agreements so far negotiated have restrictions imposed by bilateral partners, thus limiting opportunities for Kenyan airlines and constraining aviation industry growth.
- Inadequate domestication and implementation of international conventions and agreements to which Kenya has been signatory
- The responsibilities of the MOT, KCAA and KAA, as already defined indicate an overlap of responsibilities and functions that inhibit the effectiveness of the regulatory functions of the key aviation institutions, KAA and KCAA, resulting in potential conflict of interests
- Some aspects of the legal framework are not in conformity with international trends.
- Failure to domesticate certain international treaties has resulted in limited application of key aviation conventions

- A clear criteria for designation of airlines is lacking

#### POLICY

240 The National Government will:

- a. Develop an appropriate legal and regulatory framework supportive of a modern, safe and secure aviation industry.
- b. Continuously Review and update the Civil Aviation Acts to bring them in line with the changes that have taken place in the aviation industry, and reflect international standards.
- c. Ensure restrictive air services agreements are continuously identified and reviewed.
- d. Separate service provision from regulation

## CHAPTER FOUR:

### CROSS CUTTING ISSUES

#### INFORMATION AND COMMUNICATION TECHNOLOGY FOR TRANSPORT

##### CRITICAL ISSUE

241 By and large, Kenya's transport sector lacks integrated ICT systems capable of providing data access and sharing of services amongst all modes. Application of ICT in the transport sector is still limited in a number of ways, ranging from the level of technology used to non-application of ICT in transport operations.

##### POLICY

242 The National Government will:

- Establish, in conjunction with the private sector, intermodal ICT systems for efficient development and management of the transport sector.
- Establish a transport data centre for information sharing.

#### ROAD TRANSPORT

##### CRITICAL ISSUE

243 Although ICT is used in road planning, design and monitoring the systems should be strengthened to cater for integration of different road networks, roads with other modes and economic activities. There is a need to introduce ICT in tracking freight movement along the main road corridors to avoid dumping of transit goods into the local market, in axle load control, to reduce traffic congestion at weighbridge stations, cargo clearance, clearing and forwarding, registration and licensing of vehicles, regulation of traffic-by-traffic signals, monitoring of road traffic offenders and accidents, web based information on the conditions of roads, establishing global positioning systems for road transport.

##### POLICY

244 The National Government will:

- Establish a comprehensive management information system, based on performance indicators and models that enable the provision of an integrated demand and supply driven road transport infrastructure. This will ensure economic efficiency and enhance socio-economic impacts of road infrastructure development and maintenance on various aspects of the economy.
- Install a National Traffic Information System (NaTIS) and GPS to enable traffic authorities exercise proper road user control, which is an essential prerequisite for discipline, order and safety on the roads and establish an institutional home for NaTIS and relevant data sharing institutions identified for inclusion in the programme.
- Standardise databases for road traffic aspects not covered by the NaTIS and make this available to the relevant authorities. Traffic information required for planning, monitoring and control purposes, should be available to management at all levels (national and county) according to their functions and needs.
- Automate registration and licensing processes for example introduction of the second generation driving licence (smart card driving licence), log books, and identity cards linked to the NaTIS
- Develop appropriate training for implementers of ICTs.
- Integrate national and county ICT systems.

- Introduce electronic cargo tracking systems and integrate them with all other stakeholders system-wide.
- Provide fiscal incentives in all ICT facilities and services for freight transport.

## RAIL TRANSPORT

### CRITICAL ISSUES

- 245 Due to technological advancement, infrastructure maintenance and operations of modern railway transport systems are increasingly relying on ICT. The track maintenance methods currently in use, though labour-intensive, are out-dated. Due to the outdated telecommunication systems at the interchange points, trains spend unnecessary hours waiting for the others to pass. More trains can make use of the same rail if the communication systems are modernised.
- 246 The transfer of information is done mainly through trains, telephone calls and by e-mail where these are available. Most of the processes are still undertaken using paper work, which is transferred to central places for entry into the computer. This compromises data quality and as information may be lost or manipulated. Furthermore, these systems make it difficult for management to monitor the transactions taking place within the Corporation.
- 247 The introduction of the rail tracker in the management of operations by KRC, however, is an important development in the use of ICT. Although it is a customer-friendly system that enables customers connected to the system to follow the movement of their consignments from their offices the rail tracker has not been integrated with other transport modes.

### POLICY

- 248 The National Government will:
- a. Facilitate in conjunction with the private sector the adoption of appropriate ICT systems for rail transport development and operations.
  - b. Ensure that ICT in railway transport is integrated with ICT of other transport modes.

## MARITIME TRANSPORT

### CRITICAL ISSUES

- 249 Procedures required to clear cargo through Mombasa are complex, cumbersome, time consuming and expensive. The long cargo dwell times reduce the effective capacity of stacking yards and contribute to the overall level of congestion. A major obstacle to improvement in container and other cargo clearance time is the reliance on paper rather than computer based system. To benefit fully from ICT systems, compatible computer systems would need to be installed linking all stakeholders.

### POLICY

- 250 The National Government will:
- a. Ensure the upgrading of integrated ICT systems for the improved tracking and clearance of cargo through Kenyan ports to domestic, regional and international destinations.
  - b. Expedite the implementation of the National Single Window System.

## INLAND WATERWAYS

### CRITICAL ISSUES

- 251 Use of ICTs in inland waterways is very limited. Operations on inland waterways and its ports are currently done manually with little or no ICT component. There is need to introduce the use of ICTs in port operations and the tracking of vessels while in inland waterways.

### POLICY

- 252 The National and County governments will promote increased use of ICT in port operations and services in areas such as tracking of vessels, hydrographic mapping, Navigation aids, search and rescue, with a view to improving navigation in our inland waterways.

## PIPELINE TRANSPORT

### Critical Issues

- 253 The operations of the entire pipeline and storage systems are driven by the Information and Communication Technology (ICT). The entire pipeline system is centrally controlled through Supervisory Control and Data Acquisition (SCADA) system. The SCADA control system enables online supervisory control of all operational parameters from a central point with minimum human intervention. The company is currently implementing the System Application Products (SAP) for the purposes of enhancing overall company businesses processes.

### POLICY

- 254 The National Government will facilitate:
- Strengthening and upgrading of the existing ICT capacity to cope with technological advancements.
  - Integration of management information systems with pipeline operations in order to ensure ease in monitoring of operations, management of finances and improve service delivery to users of pipeline transport system.

## AVIATION

### CRITICAL ISSUES

- 255 ICTs are central to the enhanced efficiency and cost effectiveness in the development, operation and management of aerodromes as well as air navigation services. The Kenyan aviation industry has begun appreciating and benefiting from the potentials offered by ICTs in improving safety, security and quality of service. The implementation process however needs to be expedited. Automation of weather report dissemination for air traffic is necessary at all airports. Installation and operationalisation of the aeronautical communication, CNS/ATM, Global Navigation Satellite System (GNSS) are key in the management of the aviation sector.

### POLICY

- 256 The National Government will:
- Ensure CNS/ATM systems are implemented accommodating modern technological advancements.
  - In conjunction with stakeholders install Total Airport Management Systems (TAMs) at the main international airports.

## ENVIRONMENTAL EFFECTS ON TRANSPORT

### INTEGRATING ENVIRONMENT AND TRANSPORT

#### CRITICAL ISSUES

257 Kenya has not adequately incorporated environmental policies in transport infrastructure development, management and operations. The development of transport of infrastructure and operations affect the environment through destruction of flora and fauna, displacement of human settlements and animal habitats, separation of animal herds, noise pollution, oil spills and negative changes in environmental aesthetics.

#### POLICY

258 The National Government will:

- Build the necessary capacity to the relevant environment agencies to play their role.
- Ensure that development of transport infrastructure and operations cause minimum damage by incorporating environmental impact assessments as a key requirement in transport projects and implementing mitigation measures.
- Make use of regulatory and incentives to promote efficient and less polluting modes of transport and encourage non-transport interventions to mitigate the adverse environmental effects of transport.

### ROAD TRANSPORT

#### CRITICAL ISSUES

259 Environmental impacts during road infrastructure construction and maintenance, such as soil erosion, excavated gravel pits, and physical intrusions have not been taken into consideration. Laws relating to environmental issues have not been effectively enforced.

260 Traffic congestion in cities and towns contribute highly to air and noise pollution. Cleaning of vehicles within the neighbourhood of natural watercourses is common resulting to water pollution. No measures exist to determine the damage caused to the environment because of gaseous, vibration, noise, and water pollution.

#### POLICY

261 The National Government will:

- Ensure that a comprehensive regulatory and strict enforcement mechanism is carried out during design, development, rehabilitation and maintenance of road transport infrastructure. It will also ensure that the public have a say in environmental impact assessments before commencement of any road development and rehabilitation projects and the identified impacts mitigated.
- The government will enforce strict land use planning to ensure no drainage channels are blocked
- Promote the use of high quality and environmentally friendly fuels.
- Domestic international agreements on road transport fuels.
- Ensure regular inspection of motor vehicles to ensure control of noxious gaseous emissions, noise

and effluent disposals into the environment.

- Consider telecommuting<sup>2</sup> as an alternative means of commuting in the long term particularly within urban areas.

## RAIL TRANSPORT

### CRITICAL ISSUE

- 262 The railway sub-sector has not adequately addressed environmental issues in the development and maintenance of rail infrastructure, with rail construction adversely affecting the environment.
- 263 Railways operations contribute to pollution of the environment through spillage of cargo in accidents and by waste from equipment maintenance depots. In addition, noise and vibrations generated during operations also constitute environmental pollution. Use of diesel locomotive power also contributes to air pollution. The change from diesel locomotive power to electric powered locomotives can result to considerable reduction or elimination of air pollution.

### POLICY

- 264 The National Government will:
- Promote the use of electric powered locomotives for improved performance of the railways operations which are friendly to environment.
  - Ensure that railway operations meet the environmental standards set by the National Environmental and Management Authority (NEMA).
  - Ensure that environmental issues are considered in long term rail transport planning.

## MARITIME TRANSPORT

### CRITICAL ISSUES

- 266 Kenya's territorial seas border one of the world's busiest tanker vessel routes in the transport of oil from the Middle East. Further to this, coastal and inland waters are subject to dumping of waste generated in operation of ships and other activities, as well as the ever present risk of oil spills from accidents at sea. Pollution of the sea can also arise from dumping on land and in rivers.
- 267 Emissions of Green House Gases (GHGs) by vessels also contribute to global warming and climate change which is currently a global challenge.
- 268 There is slow implementation of relevant international maritime conventions and the national oil spill contingency plan both of which call for adequate facilities and equipment.

### POLICY

- 269 The National Government will:
- Set standards in accordance with Annex 6 of the Marpol 73/78 Convention and other national/international legal instruments which address Green House Gases (GHGs) emissions by vessels
  - Facilitate implementation of the Merchant Shipping Act 2009 to allow development and enforcement of regulations to ensure all vessels sailing within our waters comply with international set standards.

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2 Telecommuting is the use of telecommunications technology to replace traditional forms of commuting. Employees work all or part of the time outside the traditional office at remote work locations, which may include the home. The work goes to the worker, rather than the worker to the work. People work where they are the most effective. Telecommuting helps workers and employers deal with important issues such as employee morale and productivity, work/family balance, environmental quality, traffic congestion, facilities usage, use of remotely-located experts, and employment of people with temporary or permanent disabilities (Source: <http://www.sacramento-tma.org/telework.html#Definition%20of%20Telecommuting> on 06/06/2004).



- Domesticate and implement international conventions, international and regional agreements and protocols on maritime pollution.
- Enhance capacity building and ensure that the country is better prepared to cope with the various effects of climate change.
- Explore ways in which further financial resources may be generated as part of any mitigation efforts in relation to maritime transport and ensure that any proceeds are reinvested within the industry in particular for the study of impacts and for the purposes of effective adaptation.
- Put measures to initiate green ports in Kenya.

## PIPELINE TRANSPORT

### CRITICAL ISSUES

270 Though the pipeline transport system is the most environmentally sound mode of moving petroleum fuels, there are risks associated with spillages and fires, both natural and man made with severe environmental consequences. The country lacks adequate contingency plans to deal with such risks and the consequences thereof.

### POLICY

271 The National Government will ensure pipeline development and operations are safe and conform to International Standards

## AVIATION

### CRITICAL ISSUES

272 Aircraft noise and emissions beyond acceptable levels are emerging as major challenges at Kenyan aerodromes. This situation is compounded by human settlement encroachment on airport land; uncontrolled disposal of waste including abandoned and written off aircraft at aerodromes.

### POLICY

- 273 The national government will:
- a. Ensure compliance with ICAO minimum standards and recommended practices (SARPs) in respect of environmental protection and
  - b. Strengthen the KCAA and KAA to enable them carry out their environmental protection mandate.
  - c. Enforce regulations on disposal and abandonment and written off aircraft and related aircraft waste within aerodromes.

## GENDER

### CRITICAL ISSUES

274 Inadequacy of affordable means of transport has made women bear the burden of walking, head or back loaded while performing social and economic activities involving long distances (e.g. fetching water, collecting firewood, trips to market centres, health clinics, and grinding mills). In addition, non-transport interventions (such as easy accessibility to water, posho mills, electricity, markets and health centres in readily accessible places) that reduce or eliminate the need to travel are lacking.

275 Few women have sought employment in the transport sector. Applications from female students for enrolment in institutions leading to careers in transport industry are low despite the female students possessing equal qualifications to their male counterparts.

## POLICY

276 The Government will:

- a. Promote the development and use of NMIMT to enhance gender balance in the performance of social and economic household tasks and to increase women's time spent on economic and commercial activities.
- b. Mainstream gender issues in the transport sector to ensure and actively promote equal opportunities to achieve gender parity.
- c. Increase devolved funds such as CDF and LATF to finance development of markets, health facilities, rural electrification, and water projects to reduce the distance walked by women in search of these services among others.
- d. Implement the national gender policy

## TRADE AND COMPETITIVENESS

### CRITICAL ISSUES

- 277 Kenya as a trade hub and transit country in the region has not optimally exploited its potential given its strategic location. Road and rail freight transport costs are high owing to inadequate infrastructure and other transport facilitation instruments. These factors make the port of Mombasa and by extension trade uncompetitive. Currently, the industry is dominated by few large scale transporters promoting price collusion and disadvantaging new entrants and small and medium entrepreneurs.
- 278 Although Kenya is currently linked to Uganda and Tanzania by rail, it is not linked by rail to Sudan, Ethiopia and Somalia. The country stands to gain in the long term if its railway network is linked with the networks of Ethiopia and Sudan.

## POLICY

279 The National Government will

- a. Promote the development of a seamless multi-modal transport system for freight transport.
- b. Cooperate with regional partners to simplify transport facilitation instruments.
- c. Encourage increased participation by SMEs in transport business through fiscal incentives to the private sector.
- d. Regulate the industry and promote fair trade practices.
- e. Ensure close collaboration is maintained with railway organizations in the neighbouring countries in the Eastern and the Horn of Africa on issues relating to construction of new railways, technology compatibility and harmonization of equipment, inter-operability and interconnectivity, maintenance, information technology and administrative procedures.
- f. Pursue possibilities of merging operations across borders with a view to achieving economies of scale and a seamless service.
- g. Make interface agreements with neighbouring countries to allow for seamless operations.
- h. Develop alternative routes to the sea for imports and exports,

## NON-TARIFF BARRIERS

### CRITICAL ISSUES

280 Several non-tariff barriers (NTBs) to trade inhibit the movement of freight traffic along the major transit corridors and thus raising transport costs. Cumbersome customs procedures have hampered free flow of freight traffic leading to costly delays at the port of Mombasa and at various border points that are reflected in the prices of goods (imports and exports). The causes of delay include long waiting times at weigh-bridges, police road blocks, police escorts, corruption, physical verification of transit cargo and non-application of modern information and communication technology.

### POLICY

281 The National Government will:

- a. Simplify administrative and customs procedures to enhance speedy cargo delivery such as the establishment of one stop border posts.
- b. Enhance use of modern ICT facilities in the verification of transit cargo and tracking.
- c. Enhance harmonization of transit cargo instruments under COMESA, East African Community (EAC) and IGAD.
- d. Eliminate all non-tariff barriers (NTBs) such as roadblocks, weighbridges, corruption and police escorts, etc.

## TRANSPORT RESEARCH AND DEVELOPMENT

### CRITICAL ISSUES

282 In Kenya, there is lack of a focal point to facilitate and coordinate research to inform policy formulation, the impacts of transport on the economy and environment, transport safety and security, land use and transport, people attitudes and behaviour patterns in relation to transport, industry and transport, transport logistics, modernization of public transport, pipeline amongst other issues.

### POLICY

283 The National Government will:

- Establish a National Transport Research Institute (NATRI) to undertake research into aspects of transport and encompass all modes
- Provide appropriate incentives for the private sector to invest in transport research and development
- Promote the dissemination of research findings to the relevant stakeholders.

## CHAPTER FIVE:

### FUNDING FRAMEWORK TO SUPPORT TRANSPORT INDUSTRY

- 284 The current sources for funding transport infrastructure development are mainly from the Central Government through tax revenues and borrowing from bilateral and multilateral lenders as well as user charges. Also, current funding levels are inadequate to finance new infrastructure, maintain and rehabilitate the existing ones.
- 285 Further, the existing status of infrastructure ownership, management and control is predominantly vested in the government and its agencies. Over time, this has occasioned an imbalance in the supply of infrastructure and the attendant services thereof and limited modal choice to the consumer. Previous government policies considered transport infrastructure as strategic and thus emphasized government ownership.

### GENERAL FUNDING POLICY

- 286 The National Government will:
- Review the legal, regulatory and institutional framework for the transport sector to include appropriate incentives to facilitate private sector participation in development and management of transport infrastructure and services.
  - Enhance Exchequer allocations
  - Explore the following mechanisms for raising funds for transport infrastructure development and management, namely: public ownership and private operation under Build Own Operate Transfer (BOOT) or its variants, joint ventures between the public and private sectors (PPPs), Infrastructure bonds, debt financing, equity, licensing fees, development financing and user charges.
  - Develop guiding criteria on how funding for transport infrastructure and services required for non-economic reasons and hence requiring some form of The National Government subvention will be undertaken. In all cases, the overriding concern will be to reduce the level of subventions so required in the medium and long-term.

### ROAD SUB SECTOR

#### CRITICAL ISSUE

- 287 The current road infrastructure financing is inadequate, and requires further innovative ways for funding infrastructure development and maintenance.

#### POLICY

- 288 The national and county governments will:
- a. Mobilise financing of road infrastructure through user charges and budgetary allocation from revenue sources.
  - b. Promote innovative funding mechanisms such as:
    - i. public ownership with private operation under Build Operate Transfer (BOT);
    - ii. private ownership and private operation under Build Own Operate (BOO);
    - iii. joint ventures between the public and private sectors;
    - iv. issuance of infrastructure bond to expand revenue base;
    - v. road concessioning;

- vi. establish a framework of financing road development and rehabilitation through road bonds and other financial instruments and;
  - vii. review public ownership and operation by state agencies.
- c. Donor funding for road development and rehabilitation will continue to be sought from development partners in the short and medium term.
  - d. A climate that encourages private participation in the ownership, planning, financing, construction, maintenance and management of roads shall be created. This will promote shared profit opportunities and risk-taking between the government and the private sector, whenever this is economically feasible and appropriate.
  - e. The strategic value of state ownership of infrastructure shall be re-assessed and liberalization introduced where appropriate. Ownership and regulation of road transport infrastructure shall be separated, whether state owned or privatised.
  - f. Assist the formation of a financing institutions that will fund service providers needs, and
  - g. Develop and implement the road sector investment plan

#### **RAIL TRANSPORT**

289 Infrastructure will be developed and managed through budgetary resources, fuel taxation, passenger fares and freight tariffs, concession contract fees and private sector participation. Operations and maintenance will be left in the hands of the private sector.

#### **MARITIME TRANSPORT**

290 Infrastructure will be developed and managed through budgetary resources, port tariffs, user charges and private sector participation.

#### **AIR TRANSPORT**

291 Infrastructure will be developed and managed through exchequer resources, user charges revenue and private sector participation.

- Where there are concessionaires, maintenance will be undertaken through concessionaire revenue.

#### **PIPELINE TRANSPORT**

292 Financing of pipeline infrastructure to be undertaken through budgetary allocation, user charges revenue, public private partnerships and / or from development partners borrowing.

## **APPENDIX**

## GLOSSARY OF TERMS

**Concession:** Is the authority and contract to operate a road, rail line, or network at an agreed price. It could be awarded to either the public or private sector.

**Contract:** Is an agreement between an authority and an operator regarding the delivery of a service at an agreed price.

**Critical Issue:** An issue arises in a national, district or local community when there are conflicting goals and objectives (desires or perceptions) within the community.

**Framework:** Is an outline or skeleton which provided the structure and form around which a plan or policy or strategy is constructed.

**The Government:** means The National Government unless otherwise stated.

**Integrated Plans:** Plans which encompass a system which includes land use, spatial development, infrastructure, services and the finance thereof.

**Intermodal Transportation:** Is the concept of transporting freight in such a way that all the parts and facets of the transportation process, including information exchange, are efficiently linked and coordinated, offering flexibility, irrespective of the particular transport mode or modes used. It is not just the infrastructure, vehicles, rolling stock or equipment involved, but the management and operation processes. The true advantage of Intermodalism is the ability to logistically and effectively link two or more modes of transportation for the benefit of customers and users.

**Land Passenger Transport Planning:** Is a comprehensive and integrated process for generating a plan relating to the regulation and management of transport infrastructure (roads, rail, stations, terminals and public transport facilities) and for regulating public transport operations/services and the use of infrastructure by both operators of public transport and private travellers. Because of the spatial relationship between human and economic activities, resulting in the demand for travel, it is essential that an integrated passenger transport plan should be developed in the context of a land use plan which is supportive of efficient land passenger transport.

**Land Passenger Transport:** Is a generic term which describes the movement of people by land-based travel modes, including movement by Motorised and non-motorised modes, and on foot. It encompasses both urban and rural passenger travel, for any purpose, by both private and public travel modes.

**Logistics:** Is the process of planning, implementing, and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements.

**Passenger Transport:** Is a generic term which describes the movement of people by any travel mode, including movement by motorised and non-motorised modes, and on foot. It encompasses inter-city, urban and rural passenger travel, for any purpose, by air, sea and over land and by both private and public travel modes.

**Permission:** The authority to operate a public transport route or network without subsidy.

**Plans and Planning:** A plan is a product of the process of planning which is an organized method by which things are to be done. In the transport context, a plan is a vision of the desired future condition, a set of objectives to achieve the vision, policies to regulate the transport system, strategies, actions and projects to implement the plan and a financial statement and budget.

**Policy Goal:** A goal is an idealized end-state of the system or a desired direction of the evolution of the