

Republic of Liberia

NATIONAL TRANSPORT POLICY & STRATEGY

- *Developing an efficient, safe, affordable, sustainable and people-centered transport system in Liberia*

**September 2009
Monrovia, Liberia**

FORWARD

It is our pleasure to present to you Liberia's first National Transport Policy and Strategy.

Transport is vital to Liberia's socio-economic development. An effective transport sector enhances opportunities for domestic, regional and international trade, accruing enormous benefits to the government, users, providers, operators as well as workers. People with access to jobs, markets, health and educational facilities, and other amenities are in a better position to improve their living standards and roll back the advance of poverty in society.

The new Transport Policy and Strategy defines our vision for transport in Liberia. It is a guide to decision making by the Government and its various agencies. It will provide a point of reference for local government, businesses and communities. The objectives of the Transport Policy and Strategy are to make transport financially and economically sustainable; accessible to all persons, including the disabled and elderly; affordable to all strata of society; safe to ensure high standards of health and personal security for all people, including users, workers, and operators; and environmentally sound.

This Transport Policy was developed within the framework of the Poverty Reduction Strategy (PRS) – the overarching development programme (2008-2011) of the government. The PRS considers transport as a key to reducing poverty and raising living standards in the medium and long terms. To achieve these goals, the National Transport Policy and Strategy envisages a crucial role for the private sector working in collaboration with the government through various forms of Public-Private Partnerships (PPPs), complimentary investment and planning.

The National Transport Policy and Strategy is the result of collaboration amongst the ministries of Public Works and Transport as well as other agencies of government. We would like to thank the World Bank and GTZ for the financial and technical support provided in the development of the Strategy.

We now have the challenge of giving life to this document and ensuring that the vision of an affordable, reliable, economically and environmentally sustainable transport sector is achieved successfully. But we cannot do this alone; we need

the cooperation of transport providers, users, workers, regulators, the development partners and the entire citizenry.

Together, we can make it happen!

MINISTER OF PUBLIC WORKS

MINISTER OF TRANSPORT

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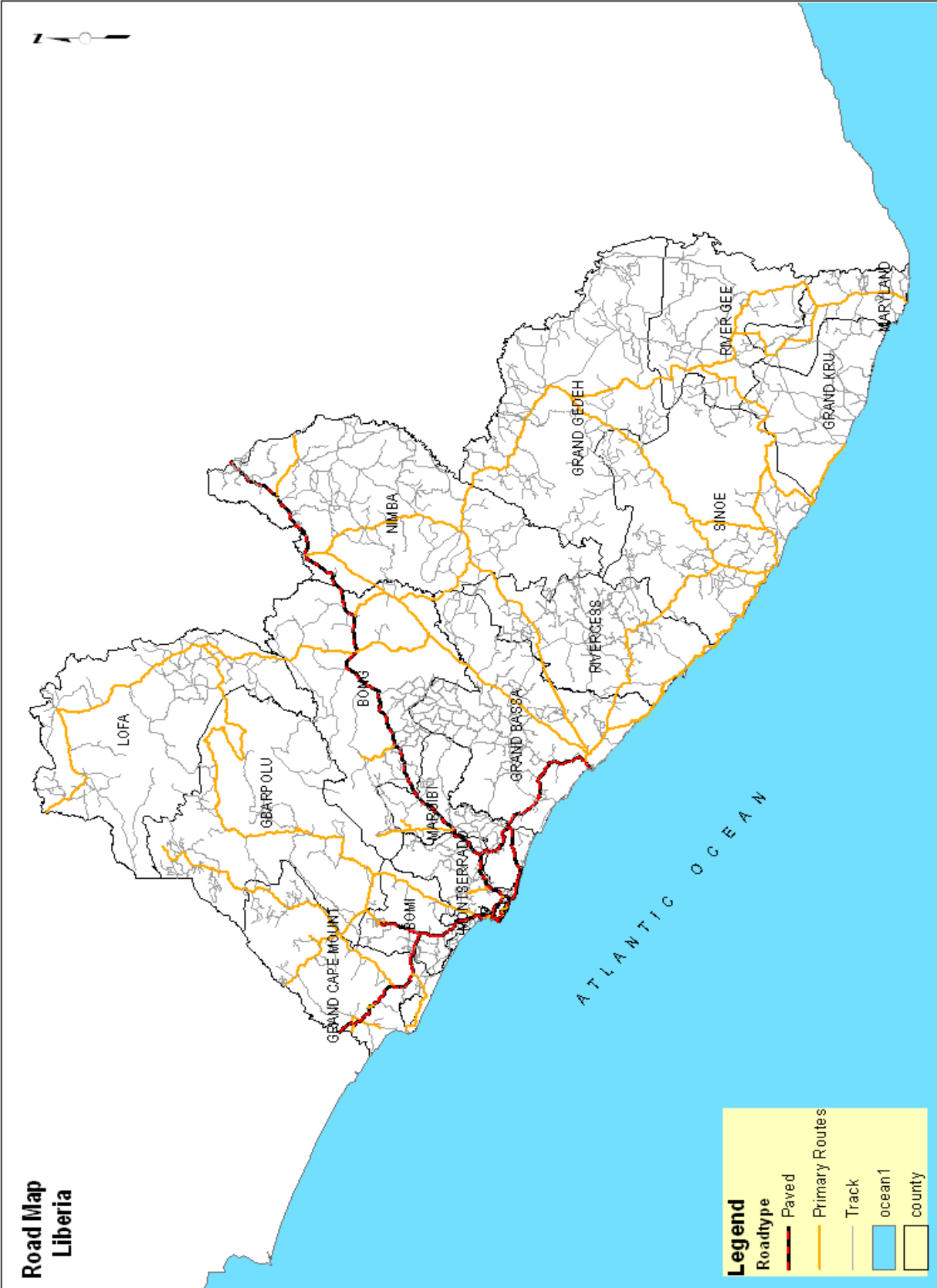
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ABBREVIATIONS, ACRONYMS & DEFINITIONS

| | | |
|-------|---|---|
| ATC | - | Air Traffic Control |
| BASA | - | Bi-lateral Air Service Agreement |
| BOOT | - | Build, Own, Operate and Transfer |
| BOT | - | Build, Operate and Transfer |
| CPA | - | Comprehensive Peace Accord |
| DBFO | - | Design, Build, Finance and Operate |
| DBMOT | - | Design, Build, Maintain, Operate and Transfer |
| EIA | - | Environmental Impact Assessment |
| EPA | - | Environmental Protection Agency |
| GoL | - | Government of Liberia |
| GTZ | - | Deutsche Gesellschaft fur Technische Zusammenarbeit |
| ICAO | - | International Civil Aviation Organization |
| IIU | - | Infrastructure Implementation Unit |
| IMO | - | International Maritime Organization |
| IT | - | Information Technology |
| LAMCO | - | Liberia American Swedish Mining Corporation |
| LCAA | - | Liberia Civil Aviation Authority |
| LDAA | - | Liberia Domestic Airport Authority |
| MoT | - | Ministry of Transport |
| MoU | - | Memorandum of Understanding |
| MPW | - | Ministry of Public Works |
| MRU | - | Mano River Union |
| MTA | - | Monrovia Transit Authority |
| NMT | - | Non-Motorized Transport |
| NPA | - | National Ports Authority |
| NTA | - | National Transit Authority |
| NTGL | - | National Transitional Government of Liberia |
| NTPS | - | National Transport Policy & Strategy |
| OPRC | - | Output and Performance-based Road Contracts |
| PPP | - | Public-Private Partnership |
| PRS | - | Poverty Reduction Strategy |
| RA | - | Road Authority |
| RIA | - | Roberts International Airport |
| RMTC | - | Road Maintenance and Training Center |
| SIU | - | Special Implementation Unit |
| SOE | - | State-Owned-Enterprises |
| SOLAS | - | Safety of Life at Sea |

| | | |
|-------|---|--|
| UN | - | United Nations |
| USAID | - | United States Agency for International Development |
| VOC | - | Vehicle Operating Cost |
| WB | - | World Bank |

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The formulation of Liberia’s first National Transport Policy and Strategy (NTPS) was made possible through the support and endorsement of the President, H. E. Madam Ellen Johnson-Sirleaf and the Cabinet. We are grateful for the strategic vision and direction she is providing to rehabilitate and improve the transport sector in Liberia.

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To the support staff, including secretaries, clerks, drivers, in the relevant ministries and agencies, we express our thanks for your hard work and dedication to duty.

As we implement the many policy directions of the NTPS, we will count on your continued commitment and support.

INTRODUCTION

The National Transport Policy & Strategy (NTPS) seeks to support the realization of the goals of the Poverty Reduction Strategy (PRS) program in the areas of education, health, water, agriculture, manufacturing, mining, energy, land use, good governance, etc. The successful accomplishment of these goals hinges on the availability of adequate and reliable transport to reach inputs to production points and also to distribute outputs from production points to consumption points or markets.

Priority is accorded the rehabilitation of infrastructure through new investment as well as the maintenance of the existing facilities to enable speedy development of strategic agricultural products, ensure food sufficiency and enhance the development of natural resources such as forestry, fishery as well as all programs geared towards environmental sustainability. The enhancement of

transport infrastructure, with a view of speeding up the development of other productive sectors, such as the manufacturing industry, trade and service sectors together with mining, is given deserving emphases in the NTPS.

The overall goal of the NTPS is to develop the transport sector in bolstering of the socio-economic development of the country thereby inducing sustainable private sector growth and poverty alleviation. This requires fundamental transport sector reforms and improvement for the development of reliable and efficient transport infrastructure and services.

The NTPS recognizes that there are compelling challenges in the transport sector including transport sector coordination, institutional reforms, policy making and enforcement, traffic management, capacity building, environmental standards and applications, attracting new investments in the transport sector, transparency and accountability, etc. The NTPS does not provide tailor-made solutions to these challenges and problems but seeks to provide a general policy framework to guide transport sector institutions and actors in addressing them.

VISION

The Vision of the NTPS is to provide a policy framework for the development of an efficient, safe, affordable, sustainable and people-centered transport system in Liberia.

GOALS AND OBJECTIVES

The National Transport Policy & Strategy seeks to foster national social and economic development goals, with emphasis on the following:

- Support the short and long term national development programs for sustainable economic growth and reforms, the development of human resources, the creation of employment and the meeting of basic needs;
- Ensure private sector participation in the provision of services while the government assumes the role of coordinator for key strategic transport infrastructure, promoter and developer of initiatives for Public Private Partnerships (PPPs);
- Apply a participatory approach in the provision of transport infrastructure and services by involving all the stakeholders (i.e. government, operators and users) in playing their role in the development of the sector;
- Provide effective institutional arrangements, laws and regulations, capacity building and the use of appropriate technology;
- Support appropriate development strategies including development corridors, land use densification and efficiency as well as economic integration through, among others, the establishment of a strong infrastructure base and services in all major towns and other centers of socio-economic activities and growth;
- Facilitate sustainable development by ensuring that all aspects of environment protection and management are given sufficient emphasis at the design and development stages of transport infrastructure and when providing services, which means that all major transport infrastructure development and improvements will be subject to rigorous Environmental Impact Assessments (EIAs); and,
- Ensure that the maritime sector maintain the highest standards and accedes to relevant international Conventions on the environment.
- Safety and Security.

BACKGROUND

Liberia was a middle-income country before the civil war began in late 1989. Fifteen years of brutal war devastated the country's economy, its physical infrastructure and its human assets. In August 2003, the warring parties ended hostilities with the signing of the Comprehensive Peace Agreement (CPA) in Accra, Ghana and the National Transitional Government of Liberia (NTGL) was established to administer a two-year interim period leading to General and Presidential Elections. In 2005, Madam Ellen Johnson-Sirleaf won the presidential elections and became Liberia's and Africa's first female President.

The transportation infrastructure inherited by the elected government was in a state of disrepair. Nearly all roads and bridges were either seriously damaged or completely destroyed during the war. The Freeport of Monrovia and other ports under the management of the National Ports Authority (NPA) faced variety of constraints including channel shrinkage, blockage of berths by capsized vessels, limited and outmoded discharging and handling equipment. The Roberts International Airport (RIA) and other domestic airports were either inoperable or operated under-capacity with inadequate equipment and unskilled manpower. Rail transport, which served as the mode for the bulk carriage of iron ore from the Bong and Nimba mines to the Port of Monrovia, was in ruins as a result of long years of lack of maintenance and pilferage.

Not only were transport services in all modes adversely affected by the civil crises, but the responsibilities and relationships between the various government ministries and agencies engaged in the transport sector were not clearly delineated leading to duplication of tasks and territorial conflicts.

Since 2006, the government has attempted to reverse this trend through the formulation and implementation of a national transport policy that would serve as a guide to decision-making in the transport sector. In the Policy, primary emphasis is placed on institutional and policy reforms that will liberalize the transport sector by making it more productive, vibrant and sustainable. To facilitate reforms, the role of the government will change from a traditional provider of transport infrastructure and services to an enabler of market-based competition. The private sector will increase its role by taking more responsibility for providing, operating and financing transport services and infrastructure through verified concessionary arrangements. In the absence of

extensive deregulatory reforms, liberalization of the sector and strengthening its institutional capacity, the goals of achieving measurable results in the short to medium terms are not likely to be realized.

The NTPS satisfies three main requirements. First, it ensures that a continuing capability will exist to support an improved standard of living. This requirement corresponds to the concept of economic and financial sustainability. Second, it seeks to generate the greatest possible improvements in the general quality of life, not merely an increase in traded goods. This relates to the concept of environmental and ecological sustainability. Third, the benefits that transport produces will be shared equitably by all sections of the community. This is termed social sustainability.

Economic, environmental and social sustainability are mutually reinforcing and when coordinated properly, can lead to the development of a transport system that is reliable, efficient, affordable and sustainable in Liberia.

INSTITUTIONAL AND LEGAL FRAMEWORK

A fundamental requirement for an effective transport system is an institutional framework which ensures the provision of effective, reliable and integrated transport services. One of the main factors that has led to the deterioration and poor performance of the sector is the lack of an effective coordination of the various components of the transport system in Liberia, both for passengers and goods.

Until 2006, the management of the transport sector was divided among several Ministries. The Ministry of Transport (MOT) was responsible for transport sector policy development and regulation. The responsibility for managing the national road network was divided between two Ministries: (a) the Ministry of Public Works - responsible for the primary and secondary roads and (b) the Ministry of Rural Development - responsible for the feeder and farm-to-market roads. The Government transferred all road infrastructure responsibilities to the Ministry of Public Works (MPW).

During the civil conflict, these Ministries lost their capacity to manage their respective functions. They lost their data and documentation, and currently rely on collective memory to determine road data. They have been unable to

undertake regular road condition assessments and confirm that almost no road maintenance has been carried out from 1986 to 2006. As a result, most roads are in very poor conditions. The lack of equipment, years of skills atrophy and very little training, has limited the capacity of the MPW to satisfactorily carry out reconstruction tasks.

The National Port Authority (NPA) has, by the 1974 Act of the National Legislature, been mandated to manage all seaports in Liberia. The NPA is an incorporated State-Owned Enterprise (SOE), responsible to provide and maintain port facilities and derives its revenues from marine and port services, storage and handling charges. NPA's management is over-sighted by an Executive Board appointed directly by the President. The ports run by the NPA are public ports in which most services are provided by NPA itself. The NPA also owns all facilities, infrastructure and superstructure.

The Liberia Civil Aviation Authority (LCAA) is the statutory body of government responsible to ensure aviation safety, security and effective regulation of air transport in Liberia. The LCAA serves as a “watchdog” as well as a facilitator of the aviation sub-sector, prescribing and enforcing minimum standards for all agencies of the sub-sector. As a result of reforms instituted, the Liberia Airport Authority (LAA) was created by law to supervise and manage all airports facilities in Liberia – both domestic and international. The LAA operates independently of the LCAA but is regulated by the LCAA. By the creation of the LAA, the Liberia Domestic Airport Agency (LDAA), ceases to exist. The LDAA, in the past, served as a hub for air traffic to the leeward counties of Liberia and to some of Liberia's neighboring countries.

Other transport-related institutions include: The Ministry of Finance responsible for revenue collection from the importation of vehicles; The Ministry of Justice responsible for traffic law and regulation enforcement; The Ministry of Labor in charge of transport union licenses; The Ministry of Commerce and Industry accountable for Vehicle Importation Permit Declaration; LISGIS responsible to collect and analyze data on transport sector activities and the General Services Agency (GSA) in charge of key transport utilities.

GENERAL POLICY FRAMEWORK

The Poverty Reduction Strategy (PRS)

The Poverty Reduction Strategy (PRS) of the government of Liberia articulates its overall vision and major strategies for moving toward rapid, inclusive and sustainable growth and development during the period 2008 – 2011. It builds on the government's first 150-days action plan and Interim PRS (iPRS). Essentially, the PRS provides a framework for the coordination and supervision of development policies and strategies for poverty reduction.

Poverty in Liberia is both pervasive and widespread. According to studies conducted by LISGIS and other agencies of government in 2007 - 2008, 63.8% of Liberians live below the poverty line. This implies that 1.7 million Liberians are living in poverty. Of these, about 1.3 million people are living in extreme poverty, equivalent to 48% of the population. Poverty is higher in rural areas (67.7%) than in urban areas (55%). Since about 70% of the population lives in rural areas, about 73% of the poor live in rural areas (PRS, 2008).

The national objective is therefore to put emphasis on poverty reduction by way of increased investment in the development of human resources, enhancement of productive services especially agricultural productivity, improvement of infrastructure, promotion of private sector development, enhancement of competition, environmental sustainability and good governance. The rehabilitation and development of transport infrastructure and services are therefore crucial to the attainment of poverty reduction objectives of the government.

The NTPS recognizes that road transport is the dominant mode in most parts of the rural areas. By virtue of the fact that poverty is mainly a rural phenomenon, the NTPS aims at facilitating the provision of reliable transport through infrastructure development and services that stimulates production in the rural areas and supply transport to the major transport networks and market.

The New Role of Government

The NTPS seeks to promote market-based competition in the transport sector. This approach implies a meaningful change in the role of the Government of Liberia. The private sector is anticipated to take more responsibility for providing, operating and financing transport services and infrastructure through

verified concessionary arrangements. The role of the Government as supplier or quantitative regulator will decline, but its importance as the enabler of competition and the custodian of environmental and social interests will increase. Cost-benefit analysis remains the preferred method for allocating public resources economically, both for investment and for purchase of social services. Setting efficient charges for the use of publicly provided infrastructure, maintaining the competitive environment in the sector, and increasing community and user participation in decision making, particularly in those areas of the country where markets do not function adequately, will become more important.

Capacity building

The NPTS recognizes the need for developing and improving technical and managerial capacity in all modes of the transport sector. The on-going reforms in the sector necessitate further human resource development to meeting the challenges posed by globalization and the development of science and technology with respect to the transport sector.

The NPTS underlines the need to (a) ensure the availability and sustainability of local technical and managerial capacity to man the transport sector, (b) for the private sector to allocate a certain percentage of its operational budget to human resource development, (c) review and explore training programs that will meet the needs of local capacity building, and (d) explore opportunities for scholarships, fellowships, study tours and other forms of capacity development with the ultimate goal of improving the transport system in Liberia.

Technological Development

Because of Liberia's low science and technology base, it faces many technological development challenges such as (a) acquiring modern technology by attracting private investment and participation, (b) selecting/choosing appropriate technology suitable to the local setting and environmentally friendly, (c) developing new technologies through creativity and innovativeness and (d) using information technology to enhance transport sector development.

Public-Private Partnership

The concept of Public-Private Partnership (PPP) in the provision and management of infrastructure and public services has, for many years and particularly in more recent times, proved to be worthwhile.

With partnerships of this kind, it has been and indeed is still possible, to respond to basic needs of Liberia without either placing a burden on public finances or encumbering public bodies with management obligations. However, the obstacles still impeding the extension of this partnership have yet to be removed. There are, in particular, two such obstacles which seem to be of special significance and merit a similar response:

First, in the investors' or private financial institutions' view, the economic viability of a project is primarily assessed by its capacity to generate sufficient resources to assure financing and to earn a reasonable return on the capital invested and the risks assumed. It is altogether natural that it should be viewed in this way. Nonetheless, the view really focuses on only direct economic impacts; not one in a wider context;

Secondly, the correct assessment of risks and their distribution lies at the very heart of the problem of Public Private Partnership. Yet, there are limits, albeit very hazy and variable, to the level of risks which the private sector is prepared to accept. Projects which could be economically viable and worthwhile do not see the light of day because their risks are seen as being too sizable.

It is evident that most PPP projects in Liberia should have the following characteristics:

- The infrastructure is, for a substantial part, financed by a private entity;
- The private entity can execute operations using the infrastructure, thereby generating a meaningful degree of traffic (particularly the major airports and ports in Liberia and in selected ways also some main/specific roads) and income for a given period of time, usually 30-40 years. After this period, the infrastructure may be transferred to the state or the contract may be renewed;
- The private entity receives revenues related to the operation of the infrastructure. These revenues may be collected from road/port/airport users or the government. The revenues are always dependent on quantitative or qualitative measures for the services provided.

Public Private Partnerships, in Liberia like elsewhere, are motivated also by a shortage of local public funding. Private financing makes it possible to advance projects as it is the case today for Liberia.

Transport and the Environment

One of the prime objectives of the NTPS is to ensure that all aspects of environment protection and management are given sufficient emphasis at the design and development stages of transport infrastructure and services. Increased mobility in Liberia and particularly private motorized mobility are likely to increase GDP but could also be damaging to the environment. Although in the future, it is anticipated that the manufacturing industry will grow and “just-in-time” logistics techniques will be developed to reduce the costs of production, expenditures in transport will tend to increase as many more goods are transported over longer distances. These shifts to movement by faster modes (i.e., air) in smaller batches, with greater flexibility in frequency of schedule and variety of roads between the different counties of the country, could have potentially adverse environmental implications particularly in terms of noise and air pollution.

Improvements of transport infrastructure in Liberia - particularly roads and ports - may involve involuntary or voluntary resettlements. More efficient provision of transport services in a more competitive framework may involve the creation but also the loss of jobs, imposing social costs and restructuring of prices and services that may hurt some users.

Public transport provided cheaply by the informal sector and motorized two-wheelers may meet the transport needs of the poor but they can also be environmentally damaging. All these phenomena involve trade-off that the NTPS seeks to address.

International Cooperation

The NTPS recognizes the cardinal role of improved transport infrastructure and services in the socio-economic development of the Mano River Union sub-region, the ECOWAS region and the African continent. Emphasis is placed on the need for the MRU, ECOWAS and the AU to harmonize and integrate transport policies and regulations in all modes of transport so as to facilitate the free movement of people, goods and services amongst nations.

To achieve the objective of sub-regional, regional and continental policy coherence, integration and harmonization, the following policy direction will be pursued: -

- Accelerate the facilitation of inter-state transport by harmonizing legislations and simplifying transit processes and procedures to improve efficiency and safety in transport in Africa,
- Strengthen structures responsible for safety and security in the transport sector in Africa,
- Encourage the establishment of regional organizations for the control of safety, security, research, rescue and accident investigations, as means to strengthen state capacities to meet international obligations,
- Include in all transport programs, a specific component to fight HIV/AIDs and other sexually-transmitted diseases,
- Promote the use of information and communication technologies for the development of transport infrastructure and operations,
- Take specific measures to ensure the sustainable financing and appropriate management of transport infrastructure, and create the enabling conditions for national and foreign private investment,
- Ratify and accelerate the implementation of sub-regional, regional, continental and international conventions and agreements relating to the facilitation of transport, transit, safety, security and the protection of the environment,
- Support effective implementation of the regional comprehensive implementation plan for air safety in Africa.

TRANSPORT MODES

ROAD TRANSPORT

Strategic Objectives

The strategic objectives of the Road Transport sub-sector under the Poverty Reduction Strategy (PRS) for the period 2008 – 2011, are:

- To rehabilitate, reconstruct and construct primary/secondary, feeder and neighborhood roads;
 - Build or reconstruct primary roads around the country to facilitate movement of persons and ensure delivery of goods and services to all counties and the West African sub-region.

- Reconstruct and rehabilitate secondary/feeder roads nationwide to assist farmers with delivery of their produce to markets to boost the economy, and 150 miles of neighborhood roads in Monrovia and its environs.
- To rehabilitate and construct neighborhood roads in Monrovia and its environs,
- Conduct Road Safety initiatives including side brushing, fabrication and installation road safety signs on city streets to promote safety and job creation through labor intensive programs.
- Install bridges on river crossings around the country.
- To improve the transport sector through effective systems and infrastructure for quality service provision;
 - Formulate and launch a National Transport Policy,
 - Formulate and launch a National Transport Master Plan,
- To improve urban and rural transit;
 - Develop a Transit Policy for the National Transit Authority (NTA),
 - Procure buses to facilitate the movement of commuters from main routes to various communities
 - Rehabilitate and upgrade maintenance facilities and inventory system for mass transit,
- To build human resource capacity;
 - Renovate the Road Maintenance and Training Center and develop a long term strategy for capacity building to enhance the maintenance of roads and bridges.
 - Involve new technologies for building low traffic roads;
 - Develop and involve innovative methodology of construction and contracts, such as DBMOT, OPRC, BOT, etc.

Road Transport Infrastructure

The existing Liberia's roads network is 9,916 km in length. 734 km are paved, even-though the pavement has grossly deteriorated, while 9,182 km remain unpaved. Paved roads segments include city streets and some primary roads.

Primary and secondary roads connect the fifteen (15) political sub-divisions of Liberia including the provincial capitals, district and chieftaincy headquarters. Additionally, primary roads link Liberia with its neighbors. 2,357 km of feeder roads in Liberia have in the past been privately constructed, mainly by logging and mining companies and partially by farmers for the purpose of extracting their produce from their production sites to markets. The Table below shows the extent of Liberia's road network.

| Road Type | Roads (km) | | |
|---|------------|--------------|--------------|
| | Paved | Unpaved | Total |
| Primary (including urban paved roads) | 734 | 1,130 | 1,864 |
| Secondary | 0 | 2,350 | 2,350 |
| Feeder | 0 | 5,702 | 5,702 |
| Other roads (forestry, community, private) | 0 | n/a | |
| Total | 734 | 9,182 | 9,916 |

Source: Poverty Reduction Strategy (PRS), 2008

The ultimate aim of the Government is to rehabilitate major roads and bridges, a critical component of the infrastructure and basic services pillar, to facilitate economic activities and combat poverty. Without adequate infrastructure (roads & bridges), the ability to reduce poverty is severely hindered and increases the likelihood of a return to conflict. Massive roads projects will provide thousands of jobs for the youth and will have substantial multiplier effects on the economy and poverty reduction, facilitating the enhancement of networking that spur rapid national development.

Roads and Bridges as the pivotal link

Roads and bridges are the pivotal links for all development initiatives at this stage of the nation's recovery process. Nearly all aspects of development being envisioned requires getting from one point to another. One cannot have an effective enrichment system without physical access to educational facility throughout the country. This is also true for health care delivery and agriculture as well as legislators being able to get to their constituencies and the President being able to reach out to cross sections of the citizenry. Overall, mobility or access to mobility plays a vital role in the life of people and their economic activities.

Roads and bridges are critical to addressing the issues of women empowerment. With good roads, farmers, most of whom are women, will be sure of marketing their produce thereby empowering them economically. When women are empowered, they will be able to support their children in school which is a positive step to addressing the prevalence of illiteracy. With good roads and bridges, the rights of children and youth to food, nutrition, health, sanitation and education would be assured.

Road Infrastructure Maintenance

Maintenance of the national road network has been sporadic in recent times. During the civil crises, little or no road maintenance was carried out. No road condition survey and bridge inspection have been undertaken since the end of the civil crises. Consequently, the road network has deteriorated and in some instances, completely severed. To address road maintenance issues, the following policy direction will be pursued: -

- i. Establish an effective road maintenance organization and system,
- ii. Concession road maintenance works to private sector operators under Performance and Output-based contracts (OPRC) and other PPP schemes,
- iii. Establish baseline conditions for the road network and take a reliable inventory of all assets, including roads, structures, depots, equipment, etc.,
- iv. Carry out a detailed cost-benefit analysis to determine the appropriate design standards and maintenance levels for different traffic volumes.

Land Use Planning

Presently, land use planning is not done in such a way that it locates industries and social amenities in the neighborhoods of residential areas. As a result, the process does not play the expected key role in reducing trips related to social services and amenities. Most of these services are situated in the central business district. However, the absence of a master plan and its implementation coupled with laxity in enforcement and coordination of relevant legislations has created the chaos that exist today in the urban areas. Other problems include geographical and physical characteristics, settlement patterns and location of socio-economic activities. These have made it costly to implement transport infrastructure development plans.

The NTPS provides the following policy directions regarding Land Use Planning: -

- i. Locate facilities such as light industries, schools, business and shopping centers, markets and other services within or close to residential neighborhoods in order to reduce the number of trips in urban areas.
- ii. Provide the necessary transport infrastructure to meet present and future needs based on city, municipal and town master plans,

Urban Transport Infrastructure

Roads are most predominant mode of transport in urban areas, especially in Monrovia. They interconnect production with consumption and market centers. Most roads can hardly cope with rapid increase in traffic volumes due to their bad state and insufficient road capacities. Other road related problems particularly in Monrovia include, inadequate parking spaces, lack of maintenance and room for future expansion, lack of modern terminal (bus/truck terminals), inadequate facilities for non-motorized traffic and pedestrian lanes and lack of road furniture.

Furthermore, road capacity has been reduced by road side parking, street vending and pedestrians who are compelled to walk on the carriageways as most of the walkways are full of parked vehicles and petty businesses.

The inadequate physical planning and poor implementation coupled with lack of enforcement of urban bylaws have negative impact on mobility and accessibility in most parts of the urban areas, especially in unplanned urban settlements in Monrovia. Some residential areas are inaccessible due to inadequate and poorly maintained infrastructure. As a result, residents are compelled to walk long distances to a bus stop.

In order to meet the expectations of the demand side in relation to the urban road infrastructure, the NTPS provides the following policy directions for both Monrovia and the other main towns:

- i. Design of residential areas should be done in tandem with provision of adequate transport infrastructure. It should ensure security, safety and comfortability to pedestrians and cyclists by providing for dedicated pedestrian and cyclist lanes. It should also consider planting of flora

- including trees and flowers along the urban roads to provide for both attractive road scene and shading to pedestrians from the overhead sun.
- ii. Enhance capacity building for future urban road traffic demand. Rehabilitation and improvement works should take into account traffic forecasted over a period of at least 10 years backed by appropriate traffic management measures.
 - iii. Influence land use planning and settlement patterns to achieve easy access to amenities.
 - iv. Urban residents should contribute towards maintenance of roads in their areas through direct involvement or through user charges,
 - v. Promote private sector participation in road funding and management decision-making,
 - vi. Decentralize transport activities across Liberia.

Urban Transport Management

At present, the planning, provision, maintenance and development of urban infrastructure and services are fragmented and have led to uncoordinated urban development thereby compounding urban transport problems.

In order to have an effective institutional arrangement for urban transport management, the following policy directions will be pursued: -

- i. Mandate and strengthen one ministry to undertake the coordination of diverse transport activities,
- ii. Review the existing institutional arrangement with the view of improving inter-agency coordination and cooperation,
- iii. Streamline institutional functions and responsibilities,
- iv. Improve the capacity of urban authorities to effectively plan, manage and regulate the provision of efficient urban transport infrastructure and services,
- v. Strengthen the capacity of the ministry responsible for transport to effectively develop policies and strategies.

Rural Transport Infrastructure

Rural Transport Infrastructure is at four (4) levels, i.e., the household, village, ward and district levels.

At the household and village levels, the main types of infrastructure are paths, trails and tracks which are cleared narrow passages used for shorter trips of 5 to 10 km. Such infrastructure does not facilitate households to acquire their essential needs at a minimum cost. Most of the valuable resources including time and energy are spent in fetching water and firewood from distant places.

At the ward and district levels, the infrastructure in rural areas is crucial in providing linkage of rural communities to urban markets, where agricultural inputs and products are transported to and from farms gates. These roads are travelled by motor vehicles. The state of existing roads is poor and can hardly be used especially during the rainy season due to inadequate maintenance. This leads to poor or unreliable transport services, which in turn contribute to post-harvest loss in agricultural products. The poor condition of the infrastructure has imposed a significant penalty on agricultural activities through higher vehicle operating costs, delays caused by long travel time to the nearest transport service and decreased crops and animal production.

The NTPS provides the following policy directions: -

- i. Involve households in infrastructure planning, financing, development and maintenance;
- ii. Develop capacity in terms of skills and other resources to enhance quality of infrastructure;
- iii. Mobilize and involve the communities in infrastructure development;
- iv. Increase public and private sector investment in village and county access roads;
- v. Define the institutional structure so as to enable capacity building and smooth exploitation of available physical, financial and human resources in the development and maintenance of infrastructure;
- vi. Conduct planning at the county or regional level to involve the local communities which ultimately will be entrusted with the bulk of the execution as well as the maintenance works.

Rural Transport Infrastructure Maintenance

Rural road infrastructure is hardly passable especially during the rainy seasons. The infrastructure sometimes gets completely destroyed making accessibility impossible. Most of village dwellers are not aware of their role in making their contributions of the improvement of their roads, bridges and other transport infrastructure.

Maintenance has been irregular and largely limited to spot improvements (potholes) made by villagers with little or inadequate resources and skills, yielding just short-term results. Such infrastructure bars growth of economic activities as well as hinders local transport and travel.

The NTPS provides the following policy directions: -

- i. Sensitize communities and villagers to realize their important role in contributing to infrastructure planning, design, construction, rehabilitation and maintenance;
- ii. Contract local communities to manage the roads in their localities;
- iii. Develop a culture of routine maintenance among the rural communities;
- iv. Explore ways of ensuring availability of a dedicated fund for rural infrastructure maintenance;
- v. Develop the rural capacity to plan, design, construct and maintain rural infrastructure,
- vi. Promote the use and application of local materials in rural road maintenance.

Employment Creation

Poverty and isolation are linked. Improvement in the roads and bridges network is likely to increase the potential for mobility and economic development but only if such improvements is carefully targeted to reach the poor. Improving the living standards of the rural population will partly depend on infrastructure. Labor-based methods and construction techniques are being encouraged in Liberia. In planning, managing and executing public works, the collaborating partners in Liberia are been urged to promote employment of unskilled labor using simple hand tools without significantly sacrificing construction quality. Such projects may generate around 2,500 person days of employment per kilometer. As a result around 40% to 50% of total expenditure could be distributed as wages as opposed to 5%-10% on machine-based projects. Furthermore, this approach offers the best approach to providing low-cost preventive maintenance in rural areas.

Labor-intensive projects are essential in many aspects particularly for rural economies and social development as well as for the lasting security and decentralization efforts. Therefore, it is necessary to strengthen private-sector contracting, and organize “on the job” and other types of local training. It is

also important to ensure that the knowledge transferred technique is applied continuously.

International Road Infrastructure

The geographic position of Liberia gives roads and road transport an important role in the facilitation of international trade. The trunk roads which handle most of the international traffic constitute about 10% of the total country road network. This network supports the existing transit routes as well as ensuring access to neighboring states and trade centers outside of Liberia.

Road transport contributes about 20% of the regional cross border trade and its relative importance is also believed to be increasing. Furthermore, road transport is very important for the region as it contributes up to 40% of the final consumer goods costs in some countries without direct access to the sea.

Despite its recognition in regional trade, road transport infrastructure has been extensively exposed to trade barriers. They include those related to poor maintenance and inadequate development to suit the ever-increasing need for transport services. Therefore, infrastructure should be developed and maintained to facilitate an unimpeded flow of goods and passengers between and across borders.

In order to ensure that all roads linking neighboring countries are improved to facilitate smooth flow of international road traffic and hence the expansion of international trade, the following policy direction will be pursued: -

- i. Develop primary roads corridors from the Freeport of Monrovia and other ports of Liberia to Mano River Union and ECOWAS countries to expand international trade and commerce,
- ii. Promote acceptable level of safety, security, discipline and mobility on the roads but at the same time protect the environment and road infrastructure,
- iii. Enhance and enforce regional and international legislation including safety measures with respect to, *inter alia*, vehicle standard, axle load limits, drivers and traffic operations,
- iv. Enhance the capacity building for infrastructure provision and management,

- v. Promote public investment through various forms of PPP or as Public Service Obligation for non-commercial regional infrastructure.

Institutional Reforms

The Ministry of Public Works (MPW) is the government agency responsible for the construction, rehabilitation and maintenance of roads and bridge infrastructure as well as public buildings in Liberia.

The MPW is at the center of a major reform program that began in 2007. Due to the large monetary value of the donor-funded projects, it was agreed that a semi-autonomous *Special Implementation Unit (SIU)* be formed, made up of a well trained team of professionals, responsible for the technical and financial management of these projects.

An agreement has been reached to transform the SIU into the *Liberia Road Authority (LRA)* within three (3) years. A transitional period is provided for during which the SIU will be restructured and capacitated. The “new” SIU will be referred to as the *Infrastructure Implementation Unit (IIU)*. In addition to implementing IDA and other donor funded infrastructure projects, the IIU will prepare itself fully and effectively to take on the role of the *Liberia Road Authority*.

Under the LRA arrangement, the role of the Ministry of Public Works (MPW) will be one of policy making and strategic planning, while the management and development of significant part of the road network will be delegated to the transitional IIU and later the *Liberia Road Authority*, which will implement, maintain, rehabilitate and construct infrastructure through private sector entities.

The transitional IIU and the Liberia Road Authority will seek to (a) develop alternative sources of funding, (b) improvement in investment decision making and (c) creation of better organizational and cost-effective management techniques.

Road Transport Services

Passenger & Freight Transport Services

Road Passenger Transport integrates all forms of public and private passenger movement by road from short distance urban transport to long distance inter-

city, rural and cross-border transport. Freight transport provides safe, reliable, effective, efficient and fully integrated land freight transport operations and infrastructure which best meets the needs of customers at improving levels of service at an equitable cost in a fashion which supports government strategies for economic and social development while being environmentally and economically sustainable.

To ensure that passenger and freight transport is efficient and safe, both government and supporting policies will be tailored properly to meet high domestic and international standards. Government policies will relate to setting adequate norms and standards, strategic planning, undertaking transport research and studies, funding of some infrastructure project in the national interest, entering international freight and passenger transport agreements, issuance of permits for international operations, etc. Supporting policies will include undertaking performance monitoring, capacity building, supporting small, medium and micro enterprises (empowerment of SMMEs) through training courses, integrating SMMEs into the formal public transport system, etc.

The objectives of these policies will be to ensure sustainable and dedicated funding for passenger and freight transport infrastructure, operations and law enforcement, encourage efficient land use planning both in urban and rural areas, place users needs at the heart of the transport services, provide appropriate institutional structures that will carry out effective planning, implementation, funding, regulation and law enforcement of passenger and freight transport system, promote market-based competition in the road transport sub-sector, provide for the registration of all public transport operators as formalized commercial entities, assist and empower transport operators, integrate transport modes with respect to scheduling, routes and ticketing systems, develop a comprehensive road passenger and freight information system, enhance the quality of passenger and freight transport services, create growth of entrepreneurial opportunities in the road transport industry, etc.

Urban Road Transport Services

The private sector is currently the leading provider of transport services in Monrovia and other urban centers. In the city of Monrovia for example, taxi operators control approximately 90% of the market share. The share of public transport and other public organizations is only 10%. However, with the establishment of the National Transit Authority (NTA) of which the Monrovia

Transit Authority (MTA) is a subsidiary, it is likely that the estimated market share of public transport may increase. Services in most urban areas are concentrated in major arterial roads which also have less improved road conditions and high concentration of passenger volumes which has impeded the reduction in vehicle travel speed due to traffic congestion.

In order to meet the transport service demand in urban areas in terms of customer safety, comfort and adequacy, the NTPS provides the following policy directions:

- i. Increase private sector participation in the provision of transport and alternative transport services;
- ii. Develop and operate modes of transport on the basis of economic savings on fuel use, operational efficiency including reducing traffic congestion, environmental protection and safety;
- iii. Examine the current technologies available with a view to having the most ideal mode for urban transport;
- iv. Segregated public transport and in particular bus transport should be confined to selected routes to speed up traffic flow;
- v. Have in place a strong operator union(s) and forums for efficient and effective transport services;
- vi. Streamline regulatory functions;
- vii. Encourage use of non-motorized transport and possibly mass passenger transport as alternative to ever growing traffic demand.
- viii. Establish trucks/bus terminals near the main cities.

Rural Road Transport Services

The quality and quantity of rural transport services profoundly affect the daily lives of millions of residents of rural communities. Goods and agricultural inputs need to be transported to villages and markets centers. Social interactions generally require significant level of transport. Despite all these, transport services are limited making the mobility of rural communities difficult and costly.

In order to facilitate movement of goods and services in rural areas, the policy directions to be pursued include: -

- i. Increase private and public sector participation,

- ii. Give development of rural infrastructure a deserving emphasis during planning and allocation of transport resources at the national level.

Road Transport Services and Agriculture

The efficient transport service in rural areas is needed for speedy delivery of agricultural inputs such as improved seeds, fertilizers, ploughs and other farm implements to the village and household levels, as well as transportation of crops from farms and villages to the markets and other consumption areas. Some of the village and district dwellers have no access to transport services because such services are either unavailable or are hardly affordable. Poor transport services impede the growth in agricultural activities and standard of living of rural communities. Rural areas need to be given primary consideration in transport services through increased transport supply and investment.

The following policy direction will be pursued: -

- i. Promote private sector participation in the provision of transport services,
- ii. Encourage the private sector in collaboration with the public sector to provide competitive services to make them affordable and available to rural communities.

Non-Motorized Transport (NMT) Services

In rural areas, walking and head loading dominate travel and transport activities and in most cases the movements takes place on footpaths, tracks and trails away from the formal road network. Availability of means of transport such as bus, tractors, pick-ups, trucks and Lorries are very low and limited. Many households do not use NMT like bicycles, tricycles, animal drawn carts and wheelbarrows to transport agriculture inputs and outputs from their fields. The NMT is use at a varying scale depending on the income levels, availability of appropriate livestock, equipment, terrain and social cultural factors. Out of the total carriage in the rural areas, only 20% is done using NMT. This situation reduces efficiency in economic activities and marketing, hence accelerating poverty in the rural areas.

To adequately address the aforementioned situation, the following policy direction will be pursued: -

- i. Promote the use of cheap Non-Motorized Technology (NMT),
- ii. Sensitize the use of NMT amongst women in rural areas,
- iii. Improve transport infrastructure in the rural areas to cater to all transport means including NMT.

Motorized Transport Services

At the village, ward and district levels, the predominant mode of transport is road. Motor transport using vehicles, tractors with trailers, crop purchasers' vehicles, district buses and private minibuses are used in some areas. These cater for longer distance travel to districts moving along regional roads. The use of the road motor transport at this level is poor due to inadequate transport equipment and low demand due to low level of affordability. In such areas where there is inadequate transport facilities and low level of affordability, a non-motorized facility like bicycles, tricycles, animal drawn carts and wheelbarrow are used to ferry passengers and goods.

The policy direction includes:

- i. Coordinate with the responsible sectors with a view of establishing facilities such as schools, health centers, water, energy, etc., at village proximity,
- ii. Plan village development programs, with transport aspects being considered in conjunction with other important land use, social economic, culture factors,
- iii. Encourage the use of non-motorized transport to ferry both passengers and goods as an alternative means where there is inadequate motorized transport facilities.

International Road Transport Services

Road transport services provide means for passenger transport at the international level supported by an informal Bi-Lateral Road Transport Agreement – a mechanism put forward to enhance international travel between partner states including Ghana, Guinea and Cote d'Ivoire. Despite its recognition in regional trade, road transport services are extensively exposed to trade barriers such as: -

- The non-staff barriers related to border management. These include:

- (a) Customs and excise,
- (b) Immigration administration,
- Un-harmonized licenses among the regional countries,
- Poor road markings and signs,
- Variations of documentation at different border posts.

These barriers together with other constraints like vehicle inspection procedures, corruption and lack of inadequate communication facilities lead to border delays. Therefore, road services and their management should be improved to facilitate an unimpeded flow of goods and passengers between and across their respective territories.

To ensure that road transport services are effectively provided so as to facilitate the smooth flow of traffic and expand international trade, the following policy direction will be pursued: -

- i. Harmonize international/regional road transport policy with neighboring countries to facilitate equal treatment, non-discrimination, reciprocity and fair competition,
- ii. Promote regional integration by harmonizing highway legislation, signs and signals, customs procedures and transit arrangement,
- iii. Promote market access in respect to international transport in accordance with internationally recognized protocols on transport and Bi-Lateral Road Transport Agreements which should be formulated and applied,
- iv. Coordinate the activities of the authorities which impact on road transport especially at border posts and inland clearing depots to facilitate the free flow of transit traffic.

Road Transport Unions

The NTPS takes cognizance of the existence of Road Transport Unions in Liberia. The Unions aim to seek the interest of commercial vehicles owners, drivers and other transport workers. In order to ensure the effective operation of Road Transport Unions in Liberia, the following policy directions will be pursued: -

- i. Promote Road Transport Union participation in the provision and coordination of commercial transport services,

- ii. Encourage Unions, the private sector and government to collaborate with the view of providing competitive transport services to ensure affordability and availability,
- iii. Ensure that the Unions construct and operate terminals, parking lots, bus stops and other infrastructure across the country,
- iv. Ensure that Unions are transparent and accountable in both financial and operations activities,
- v. Ensure that the Unions provide systematized, organized, safe and orderly transport services in the carriage of passengers and their goods as well as caring for children and disadvantaged people,
- vi. Encourage the unions to develop and implement programs and activities for training and capacity building of their membership,

Road Traffic Management

Traffic Flow and Management

There is a need to minimize traffic congestion in the major Central Business Districts such as Red Light, Waterside, Duala and other places located in Monrovia.

There is serious traffic congestion in Monrovia particularly in the areas highlighted due to rapid increase in car ownership and use. Apparently, the existing road capacity has not been able to cope with vehicle influx. Congestion has also been caused by lack of public education and awareness, lack of parking spaces, poor traffic management including inefficient traffic signals, poorly designed junctions, lack of signs and markings and laxity in traffic regulation enforcement.

In order to minimize traffic congestion in urban areas, the NTPS underlines the pursuance of the following policy direction: -

- i. Implement traffic management measures alongside maintenance, rehabilitation, construction and operation of urban road infrastructure as a low cost undertaking to improve utilization of the limited road capacity.
- ii. Enforce building legislation on provision of parking spaces in any land parcel development for office, retail, residential, industrial, recreational, etc.,

- iii. Designate and develop more ring roads wherever appropriate to cater for through traffic as an alternative to radial roads starting from the populated and congested business districts,
- iv. Define proper vehicle dimension and combination in business centers wherever necessary. Vehicle discrimination should be exercised to attain smooth traffic flow.
- v. Promote of public transport as the most effective and efficient means of travel in urban areas and discourage private transport particularly in areas prone to acute congestion such as in the Central Business District especially during peak hours,
- vi. Develop rail and water transport wherever possible to complement road transport.

Traffic Safety

The NTPS recognizes the need ensure traffic safety by improving the quality of road vehicles (including motorized and non-motorized vehicles), drivers of vehicles, operators of vehicles, pedestrians, road traffic operations, the road environment and interaction in the traffic network including the mutual interaction between road users and the interaction between road users, the road infrastructure and the road environment. Emphasis is placed on the functional areas of road traffic management such as: (a) road traffic control (law enforcement), (b) adjudication of traffic offenses, (c) enhancement of road user knowledge, skills and attitudes, (d) incident management, (e) road traffic engineering (including transport and traffic engineering, traffic operations management and road vehicle engineering), and (f) support functions including traffic legislation, information management, licensing and registration and road traffic related research and development.

Road traffic problems can be solved when the need to focus on the human aspect of road traffic is fully recognized. All categories of road users will continuously be exposed to a purposeful program at promoting their voluntary compliance with the law and at developing community ownership and participation in enhancing road traffic quality and safety. Road user knowledge, skills and attitudes will be enhanced by a comprehensive approach including formal education within a formal educational setting, non-formal education in non-formal education organizations and informal education where media such as radio, television, posters, pamphlets, etc., are used. Traffic control programs will be supported by well researched promotional and motivational programs, so as to create the necessary public understanding of their responsibilities,

public understanding of the reasons for the existence of the law and public acceptance and support for their control activities. Other activities that can be undertaken are to increase public awareness of the control program and to enhance the effectiveness of related programs.

Additional measures to improve traffic safety include: -

- i. Improve and enforce vehicle road worthiness standards,
- ii. Conduct and increase roadside testing of the compliance of vehicles with critical roadworthiness requirements,
- iii. Critically review the manner in which road traffic safety is currently managed with the view of drastically improving road user discipline to reduce accidents including collisions,
- iv. Establish a Traffic Information Management System for the management of road traffic issues in respect to vehicles, their owners, operators, drivers, accidents, traffic offenses, convictions, etc.,
- v. Develop, implement and operate Incident Management Plans to improve the effectiveness and efficiency of the services rendered and shorten the reaction times,
- vi. Explore the possibility of establishing a roads budget by levying fees on vehicles licenses and fuel sales as well as imposing traffic fines and bails,
- vii. Set up a Road Traffic Research Fund for the purpose of executing research projects, implementing findings and evaluating impact,
- viii. Seek donor assistance to support the implementation of these policy prescriptions.

Public Vehicle Design Standards and Specification

The rationale is to have appropriate and acceptable vehicle design, standards and specification to cater to the needs of various groups.

The design, standards and specifications for public transport vehicles should ensure safety, security and comfort to all users including disadvantaged groups such as elders, people with disability and children. Most of existing vehicles do not accommodate the needs of the disadvantaged groups.

In order to have appropriate and acceptable vehicle design, the policy direction to be pursued is as follows:

- i. Technical specification of buses and other types of vehicles (e.g., installation of catalytic converters) should be drawn up by the ministry responsible to advice on safety regulations;
- ii. The sub-standard buses and other types of vehicles currently in operation should be gradually removed and compliant vehicles licensed;
- iii. Future importation and licensing of passenger vehicles should lay emphasis on high capacity buses - 30 passengers for minibuses and up to 90 passengers for large buses,
- iv. Launch public awareness campaigns or programs.

Overloading and Axle Load Control

Overloaded vehicles axles coupled with high tire pressures are among the prime reasons that contribute significantly to lower pavement service life. Disregard for traffic rules and regulation by both enforcers and operators further compounds the problem. To a notable extent, overloading is caused by vehicles moving goods to and from one point to another in Liberia as well as from neighboring countries, especially Guinea, Cote d'Ivoire and Sierra Leone. However, a significant overloading is also being done by vehicles moving within the country's trunk road network.

To ensure that roads do not suffer unnecessary distress due to gross vehicle mass, axle mass loads or the combination of the two, the following policy direction will be pursued: -

- i. Effectively enforce procedures on the permissible axle mass loads and gross vehicle mass and gross combination mass limitations with due consideration of need to balance financial needs and interest of preserving the trunk roads infrastructure, optimizing road transport operations and enhancing road traffic safety,
- ii. Develop and strengthen a pavement management system (PMS) in order to identify the maintenance needs and thereby be able to allocate resources in a more rational and objective manner,
- iii. Launch public awareness campaigns
- iv. Explore the possibility of involving the private sector as a form of self-regulation in order to promote voluntary compliance by outsourcing the weigh station infrastructure, maintenance and enforcement,
- v. Build capacity of traffic officers, transport operators and their employees.

Transport of Disadvantaged Groups

The NTPS recognizes the transport problems faced by special groups of population including students, people with disabilities and elders in urban areas. The existing transport system hardly takes account of the needs of such vulnerable groups of population.

In order to adequately facilitate the movement of the disadvantaged population in urban areas, the following policy direction will be pursued: -

- i. Emphasize the need for the communities to recognize the existence of the special groups of population and modalities for providing adequate transport should be considered without jeopardizing the commercial aspects of service providers,
- ii. Parents/guardians should equally be responsible for meeting transport costs related to their children, elders and disabled people,
- iii. The government should evaluate its role in providing public services to these vulnerable groups within the context of the social welfare policy of the Ministry of Health and Social Welfare and other relevant line ministries,
- iv. Pursue the objective of a barrier-free environment.

Road Transport and the Environment Urban Areas

In order to provide urban transport that is environmentally friendly and sustainable, the issue of the sewage and drainage systems needs to be taken into account when developing road infrastructure. In the urban areas, pollution is becoming a serious problem due to poor sanitation and sewage disposal. Increase in industrial and coastal pollution has made matters worse. Lack of timely and adequate road maintenance lead to major problems, including poor drainage system, road flooding and damage to infrastructure and pavement. The result is collapsed road sections which become impossible during heavy rains and which in turn result in traffic delays and vehicle damage. To avoid these problems, all new and major improvements on roads will be subject to environmental impact assessment in order that appropriate measure can be identified to mitigate adverse effects of road construction and use.

Pollution in urban areas arise from several sources, including vehicle exhaust emissions, leakage and spillage from vehicles, garages and fuel storage facilities. Lack of control over vehicle maintenance standards leads to further

deterioration in vehicle performance and hence leads to increased risk of accidents and quality of exhaust emissions. Traffic congestions exacerbate the situation with reduced fuel efficiency, increased fumes, and noise and vibration effects. The result is a reduction in the water and air quality and increase in chronic health effects. Therefore, to address the issue of pollution by harmful emission, the use of unleaded fuel and the installation of catalytic converters on all vehicle will be required

In order for the urban residents to be provided with road transport that is environmentally friendly and sustainable, the following policy directions will be pursued: -

- i. Minimize traffic-generated pollution by the use of unleaded fuel and the installation of catalytic converters on all vehicles,
- ii. Encourage the use of more energy efficient modes of transport so as to reduce the level of production of green house gases that contribute to climate change
- iii. Enhance road traffic safety and management
- iv. Raise environmental awareness,
- v. Strengthen local environmental institutions and put in place facilities for testing motor vehicle emissions to meet stipulated standards,
- vi. Enhance human resource development,
- vii. Provide adequate and comprehensive drainage system during design, construction and maintenance of urban road infrastructure in collaboration with the Ministry of Public Works.

Rural Areas

The main concern in rural areas is the eradication of poverty. Most economic development activities in these areas depend, in one way or another, on the environment. For example, farming, firewood, water sources all depend on the existence of forests. Rural residents, especially the women have to walk long distances from their homes to fetch either firewood or water. Satisfactory intra-regional and rural road coverage will help in eradicating poverty taking into account the requirements such as firewood may be fetched from other areas having a comparative advantage of producing them with minimum effects on the environment.

In order to promote environmental protection aimed at reducing poverty in rural areas, the following policy direction will be pursued: -

- i. Improve rural transport infrastructure to reduce rural travel burden,
- ii. Influence use of alternative energy sources such as bio gas and solar energy available at the residential localities, instead of travelling long distances looking for firewood as source of power,
- iii. Raise environmental awareness.

Road Transport Infrastructure Financing

The Government of Liberia has already identified the need for efficient road connections between Monrovia and the rest of the country as pivotal to achieving its reconstruction vision. In addition, by improving road accessibility, the Government aims to encourage and accelerate the process of social and economic rehabilitation of the affected populations, provide employment opportunities and farm-to-market access for rural communities. With the lifting of UN sanctions on trade in diamonds and forest products, the main road corridors linking upcountry areas with the Port in Liberia will be critical to the export trade.

Financing of urban and rural road maintenance, improvement and development has been accomplished in the past through the disbursement of funds from both the urban authorities and the government. Some donor assistance has been provided. However, fund levels from these sources have proven to be grossly inadequate.

As a component of the NTPS, the Government intends to address the inadequacy of budget provisions for road maintenance by pursuing the following policy direction: -

- i. Explore opportunities for additional funding through road user charges. User charges are to be instituted to recover pavement damage and general road maintenance cost,
- ii. Establish a dedicated Road Fund,
- iii. Introduce efficient management of the road sub-sector where the intention is to outsource all maintenance, rehabilitation and construction works to contractors,
- iv. Involve local communities in urban areas in planning and mobilizing resources including labor for construction and maintenance of neighborhood roads. Where donor funding is available, the communities should provide matching funds,

Public-Private Partnership in the Road Transport sub-sector

Public Private Partnerships (PPPs), as a form of capital investment successfully employed in many countries, is being considered for major road corridors & bridges, ports, airports and different transport services. PPP comes in many different forms and specific terms are used for private roads & transport/infrastructure projects. For example, BOT (Build, Own or Operate, Transfer) is a form of PPP in which the private sector finances, designs, builds, maintains and operates a facility for a fixed term before transferring it to the owner (host government). Similar approaches include DBFO (Design, Build, Finance, and Operate) and BOOT (Build, Own, Operate and Transfer). Sometimes the private sector takes on ownership of the facility in perpetuity, in which case, there is no transfer of ownership at a later date but these approaches are less common, particularly in the road sub-sector. However, BOT refers to the general approach adopted. The advantage of private sector involvement in the running and maintenance of transport projects can be perceived in terms of lower running costs, increase efficiency in service delivery and greater capacity to maintain capital equipment.

Capacity Building in the Road Transport Sub-Sector

The capacity needs of the Ministries of Public Works and Transport are enormous and diverse. Building capacity at the MPW involves the strengthening of the planning and operational apparatus through the creation of the autonomous Road Authority and staff development in the areas of road maintenance, civil, structural and architectural engineering, etc. The ongoing rehabilitation of the Road Maintenance Training Center (RMTC) by USAID is an important step in addressing some of human capacity needs of both the MPW and private sector contractors.

Capacity development at the Ministry of Transport will require support for a comprehensive training program in areas such as: transport economics and strategic planning; traffic forecasting; transport and environment issues; information systems and data base administration as well as training courses in selected topics including multimodal transport, safety, PPPs, etc.

The overall thrust of capacity building in the NTPS is to ensure the availability and sustainability of local technical and managerial capacity to man the road transport sub-sector.

AIR TRANSPORT

Strategic Objectives

The strategic objectives of the Air Transport sub-sector under the Poverty Reduction Strategy (PRS) for the period 2008 – 2011, are: -

- To restore and expand national air capacity as quickly as possible to international standards.
- Conduct feasibility study on reconstruction of airport infrastructure,
- Formulate and implement a Master Plan for the air transport sub-sector,

Air Transport Infrastructure

There are more than 12 airports including airstrips serving domestic and international traffic. The major airports are Roberts International Airport (RIA)

and James Spriggs Payne Airport. Others are Foya Kamara, Greenville, Harper, Voinjama, amongst others.

The state of airport infrastructure in Liberia is poor and detracts the growth of the aviation sub-sector. It is faced by a number of critical problems including inadequately maintained runways, aprons, terminal buildings and facilities; poor state of navigation facilities and firefighting equipment; poor airport planning and management and lack of funds for acquiring necessary equipment.

| IMPORTANT AIRPORTS IN LIBERIA | | | | | | | | | |
|--------------------------------------|------------------------------|----------------------|---------------------------------------|-----------------------------|-----------------------|--------------------|-----------------------|--------------------|-----------------------|
| N o. | Airport s | Locat ion | Leng th of run way | Number of passengers | | | | | |
| | | | | 2006 | | 2007 | | 2008 | |
| | | | | Emb ark | Disem bark | Emb ark | Disem bark | Emb ark | Disem bark |
| 1. | Roberts Internat ional | Margi bi Co. | 11,0 00ft | 43,29 1 | 45,106 | 83,01 6 | 82,155 | 57,01 8 | 58,838 |
| 2. | Spriggs Payne | Monr ovia | 6,00 0ft | NA | NA | NA | NA | 1,013 | 932 |
| 3. | Alexan der Tubman | Maryl and Co. | 3,20 0ft | NA | NA | NA | NA | NA | NA |
| 4. | R. E. Murray | Sinoe Co. | 4,40 0ft | NA | NA | NA | NA | NA | NA |
| 5. | Foya Kamara | Lofa Co. | 3,00 0ft | NA | NA | NA | NA | NA | NA |
| 6. | William D. Colema n | G' Gede h Co. | 6,00 0ft | NA | NA | NA | NA | NA | NA |
| 7. | Tenebu (Voinja ma) | Lofa Co. | 3,00 0ft | NA | NA | NA | NA | NA | NA |
| 8. | LAMC O Airport | Nimb a Co. | 6,06 3ft | NA | NA | NA | NA | NA | NA |
| 9. | Unificat ion Airport | Sassto wn | 3,00 0ft | NA | NA | NA | NA | NA | NA |

| | | | | | | | | | |
|-----|--------------------|---------------|---------|----|----|----|----|----|----|
| 10. | Bomi Hills Airport | Bomi Co. | 3,650ft | NA | NA | NA | NA | NA | NA |
| 11. | Rivercess Airport | Rivercess Co. | 3,000ft | NA | NA | NA | NA | NA | NA |
| 12. | Gbarnga Airport | Bong Co. | 6,000ft | NA | NA | NA | NA | NA | NA |

Source: Planning, Research and Legal Department: Liberia Civil Aviation Authority (LCAA)

In order to address these inadequacies, the following policy direction will be pursued: -

- i. Involve the private sector in airport operations, maintenance and where possible development,
- ii. Streamline institutional structure by decentralizing the management and development of the smaller and other non-commercial airports to the urban and district levels,

International Air Transport Infrastructure

Liberia has one major airport serving international traffic. The Roberts International Airport serves in this capacity. The Liberia Civil Aviation Authority regulates domestic and international air transport infrastructure development and management in Liberia. Safety and operating standards as laid down in international conventions, i.e., the Chicago Convention of 1944 and the Warsaw convention of 1929 which are monitored by international bodies such as the International Civil Aviation Organization (ICAO), the World Meteorological Organization (WMO), the African Civil Aviation Commission (AFCAC), etc., will be the basis for the regulation of air transport infrastructure development and management in Liberia.

Air transport services are provided by inadequately maintained airport runways, aprons and terminal buildings, poor state of navigational gears, firefighting equipment and cargo terminals, frequent power cuts, poor safety measures and inadequate storage facilities.

In order to improve the standard of air transport infrastructure to foster international trade and tourism, the following policy directions will be implemented: -

- i. Improve airport facilities to ICAO safety and security standards,
- ii. Adequately improve airport runways, aprons and terminal buildings to a standard that will facilitate adequate air transport services,
- iii. Improve the infrastructure at the Roberts International Airport and domestic airports through various forms of PPP to enable them to become leading gateways and, in the case of the RIA, as an effectively operated international airport.

Air Transport Services

The aviation sub-sector plays a vital role in the facilitation of the tourism and mining sectors. The demand for domestic air services in domestic markets is substantially high. The provision of services is mainly by Roberts International Airport, Roberts Flight Information Region (tripartite organization) and to a lesser extent by the Liberia Domestic Airport Agency (LDAA) and the private sector. In order to enhance the capacity of major airports especially the RIA and LDAA, Liberia needs to make an optimal use of the potential exports in non-traditional commodities including horticultural products and vegetables.

Air transport services have for some years now been functioning poorly due to factors which include inadequate skilled manpower and equipment, poor services at terminals, inadequate frequency, high fares due to limited competition and increased traffic, inadequate inter-line facilitation, poor airport planning and management and lack of investment capital. The challenge for air transport is also to cater to the growing demand of tourists and investor traffic.

The policy direction that will ensure enhancement of the capacity of airport operations is: -

- i. Promote private sector participation in the provision of competitive air transport services in areas with potential commercial viability,
- ii. Commercialize airports operation with economic potentials,
- iii. Strengthen regulatory machinery,
- iv. Review legislation, rules and procedures to ensure compliance with regional civil aviation protocol,

- v. Attract both tourists and import/export traffic from inside and outside of the country with focus on the domestic airport in Sinoe, Greenville near the Sapo National Park, to be one of the major local points of the tourist industry in Liberia,
- vi. Enhance infrastructure in a manner that the government continues to play the leading role while at the same time preparing appropriate grounds for private sector participation.

International Air Transport Services

International scheduled services are governed by Bi-Lateral Air Service Agreements (BASAs) concluded between Liberia and other states including the Kingdom of Belgium and the Kingdom of Morocco amongst others. The Liberia Civil Aviation Authority (LCAA) licenses scheduled and non-scheduled operations for the carriage of passengers and cargo. Services at intercontinental levels are provided mainly by foreign airlines. With the envisaged privatization of the aviation sub-sector, services should be expected to expand to meet intercontinental destinations.

The NTPS recognizes the need to adopt the Open Sky policy. The policy makes it possible for airlines to offer the travelling service options at competitive prices that are not discriminatory and do not represent abuse of a dominant position and seeks to encourage individual airlines to develop and implement innovative practices.

In order to improve the standard of air transport services to foster international trade and tourism, the following policy direction will be pursued: -

- i. Involve the private sector in the provision of air transport services with the view of promoting international trade,
- ii. Promote competitive rates and tariffs,
- iii. Encourage bi-lateral and multilateral air service agreements.

Air Transport Safety and Security

The Liberia Civil Aviation Authority (LCAA) is responsible to ensure safety and security for passenger, freight and assets at airports and related areas through the enforcement of laws, regulations, codes and procedures prescribed by the International Civil Aviation Organization.

To carry out its functions, the LCAA will pursue the following policy direction:

-

- i. Install an Airborne Collision Avoidance System (ACAS), Ground Proximity Warning System (GPWS) and transponders to enhance safety,
- ii. Regularly inspect flights,
- iii. Regularly and systemically monitor recordings of flight recorders,
- iv. Provide and install a Minimum Safe Altitude Warning (MSAW) system in all secondary surveillance radars to prevent controlled flights into terrain (CFIT) accidents,
- v. Excellently maintain equipment to safeguard against any malfunction,
- vi. Build the capacity of responsible personnel,
- vii. Prioritize airport security nationwide and periodically review threat perception,
- viii. License and provide security clearance for personnel engaged in security functions,
- ix. Develop contingency security plans to safeguard against emergencies.

Air Transport and the Environment

The Air Transport mode should promote a competitive, environmentally friendly aviation system that ensures safety in accordance with international standards while meeting current and future demand. It poses some risk associated with infrastructure development requiring heavy investment, operational cost and human capacity. The economic base to exploit air transportation of large quantities of goods and passengers is not fully developed. Such goods include agricultural and industrial products and passengers including tourism.

In order to provide efficient and environmentally sound air transport, the policy directions to pursue include: -

- i. Promote air transport development including its infrastructure and human capacity,
- ii. Provide needed financial, technical and other forms of support for the Liberia Airport Authority (LAA),
- iii. Promote air transport for mass movement of passengers and goods in remote areas,
- iv. Continue to liberalize and privatize air transport operations to make the services more efficient,

- v. Make deliberate effort to build up human capacity related to this mode,
- vi. Continue to reform and privatize air transport institutions responsible for human capacity to make services more efficient.

Public-Private Partnership in the Air Transport sub-sector

The many years of civil strife in Liberia devastated all airport infrastructure and services. At the Roberts International Airport (RIA), the nation's only international airport, all infrastructure including the terminal building was burnt down and the runway rendered inoperable. Domestic airports were also not spared. The total cost of rehabilitating and developing these airports is huge and may not be underwritten by the government only.

The Government intends to address the inadequacy of budget provisions for air transport infrastructure and services rehabilitation through Public-Private Partnerships (PPP). PPP, a form of capital investment, has been successfully tested and employed in many countries facing limitation of capital. The Government considers PPP as a viable means of generating needed capital for the rehabilitation and construction of the RIA and other domestic airports as well as stimulating service providers. PPP comes in many different forms such as BOT (Build, Own or Operate, Transfer), a form of PPP in which the private sector finances, designs, builds, maintains and operates a facility for a fixed term before transferring it to the owner (host government). Similar approaches include DBFO (Design, Build, Finance, and Operate) and BOOT (Build, Own, Operate and Transfer).

Capacity Building in the Air Transport sub-sector

The performance of the Civil Aviation industry in Liberia has been plagued by inadequately trained manpower. As a result, the capacity of the institutions in the Aviation sub-sector has been adversely affected. To remove the bottlenecks to an effective and efficiently-operated civil aviation sub-sector, a program of intensive training and human resource development has been developed to cover a broad spectrum of human resource capacity needs in the departments of Flight Safety Standard, Communication Air Traffic Control, Aviation Security and Planning & Research.

MARITIME TRANSPORT

Strategic Objectives

The strategic objectives of the Maritime Transport sub-sector under the Poverty Reduction Strategy (PRS) for the period 2008 – 2011, are: -

- To restore viable and self-sustaining activities at the nation's ports,
- Rehabilitate/reconstruct facilities at all ports for improved operating efficiency,
- Reform NPA by concessioning port operations,
- Develop and implement the National Port Master Plan,
- Ensure safety, security and protection of the Marine Environment

Maritime Transport Infrastructure Ports

The major seaports (Freeport of Monrovia, Harper, Greenville and Buchanan) are being activated and partly rehabilitated. The most critical problems facing

Liberia's seaports include poor facilities, inadequate/unavailable cargo handling equipment and marine crafts, navigational hazards (ship wreckages), insufficient navigational aids, inadequate maintenance of port infrastructure and facilities.

In order to have an effective transport infrastructure for coastal and inland waterways, the policy measures include: -

- i. Determine navigability of inland waterways by conducting surveys and developing bathymetric charts,
- ii. Concession existing port facilities to private investors,
- iii. Involve private investors in the provision of port facilities through PPP schemes,

Inland Waterways

The NTPS seeks to ensure the maximum exploitation of water transport potential to complement other modes to meet the growing transport demand. Liberia has a great potential for water transport. There is a long coastline, which stretches from Monrovia to the South East of Liberia along the coastline of Sinoe and Maryland counties. In addition to coastal waters, Liberia has three great lakes – Piso, Sherman and Teleh. There exist many rivers such as St. Paul, St. John, Cavalla and several small ones. All these waters need to be properly utilized to provide freight and passenger transport in areas which are not currently accessible.

The policy directions to be pursued that will maximize the exploitation of water transport potential and complement other modes to meet the growing transport demand are: -

- i. Promote use of water transport wherever natural infrastructure exists by creating conducive environment for the private sector to operate,
- ii. Encourage the provision of accessible, viable and productive landside infrastructure,
- iii. Promote a safe and clean marine, maritime and inland waterway environment,
- iv. Charge the government with the key role of enhancing water transport infrastructure, e.g., ports, piers and related interface facilities.

International Maritime Transport Infrastructure

International Maritime Transport infrastructure is discussed in the context of deep sea, coastal and inland waterways transport. The maritime industry in Liberia is underserved and is largely controlled by the government both for sea and inland waterways. The industry has vast underlying potential, particularly with significant growth in international trade. The maritime transport is to provide vital linkage in regional trade and should be highly dependent on rail, road and pipeline transport modes for complementarities. Adequate port facilities and navigational aids at improve levels, particularly for inland water transport where smooth flow of traffic from in and outside of the country will be desirable. Moreover, adherence to meteorological forecasts, advisory and warnings is of critic importance to maritime transport safety.

The National Port Authority manages four (4) ports including the Free Port of Monrovia. The other ports are (a) Harper, (b) Buchanan and (c) Greenville. The NPA should be supported with extensive rail, road, pipeline and air transport corridors, connecting the north, west and south of the country. The interface points should be developed and maintained to enable the port to take advantage of the strategic position to become an important hub for sub-regional service.

Participation of Liberia in international shipping is managed by the Bureau of Maritime Affairs, an autonomous government agency. The Liberian Maritime Law governs the country's international shipping activities and relies on international conventions, treaties and codes of conduct of the International Maritime Organization (IMO).

In order to improve seaports infrastructure, the following policy direction will be pursued: -

- i. Ensure the provision of accessible, visible and productive landside infrastructure,
- ii. Continue with economic and institutional reform to improve port operations with the view of maximizing efficiency in freight and passenger movement,
- iii. Continue to involve the private sector in the provision of adequate infrastructure,
- iv. Incorporate meteorological information in maritime transport planning,

Maritime Transport Services

One of the principal aims of the NTPS is to improve the quality of maritime transport services through the liberalization and privatization of ports and maritime services. The National Port Authority (NPA) accounts for over 60% of total transit traffic. Despite the potentials, Liberia does not have in place an effective system or strategy to enable the country to fully exploit port resources and to make use of comparative advantage it has over other sub-regional neighbors. The constraints include poor supporting transport services (e.g., inefficient port facilities, the lack of railway facilities and inadequate road system), inefficient institutional framework and inadequate funding for new equipment and maintenance of the existing ones.

The Table below presents information on the number and SDWT of vessels as well as cargo volume handled by the Freeport of Monrovia from 2004 to 2008: -

| YEAR | NO. OF VESSELS | SDWT | IMPORTS (in Metric Tons) | EXPORTS (in Metric Ton) | TOTAL (in Metric Tons) |
|-------------|-----------------------|-------------|---------------------------------|--------------------------------|-------------------------------|
| 2004 | 304 | 3,793,272 | 843,467.7 | 212,251.4 | 1,055,719.1 |
| 2005 | 315 | 3,799,335 | 890,482.8 | 257,778.9 | 1,148,261.7 |
| 2006 | 331 | 3,727,553 | 1,110,459.6 | 226,768.47 | 1,302,305.27 |
| 2007 | 344 | 4,303,193 | 1,016,195.3 | 238,450.6 | 1,254,735.9 |
| 2008 | 382 | 4,029,453 | 1,232,307.0 | 243,940.3 | 1,476,247.3 |

Source: National Ports Authority (NPA)

To improve maritime transport services, the following policy directions should be pursued: -

- i. Promote private sector investment in ports with the potential for commercial viability,
- ii. Concession port services to ensure full utilization of port assets to attract more traffic,
- iii. Enhance port's performance through integrated transport services,
- iv. Improve technical and managerial skills,
- v. Review customs procedures, which contribute to excessive congestion in the ports, caused by high dwell time of cargo,
- vi. Streamline legislation and institutional framework,
- vii. Develop capacity in prevention and control of spills in harbor and port areas.

International Maritime Transport Services

Transit sea traffic is currently undertaken through the Freeport of Monrovia while inland shipping for international traffic is carried out at the ports of Greenville, Buchanan and Harper. Given their strategic positions, seaports as well as inland ports have central roles in the context of international linkage and in the sphere of the multi-modal transport network in and outside of Liberia.

In order to improve port services, the policy direction to be followed is: -

- i. Develop and implement harmonized regional and international policies in respect to high seas and inland water transport by reviewing existing laws, rules and regulations,
- ii. Promote an integrated transport system through the involvement of private resources,
- iii. Continue with economic and institutional reform to improve port operations in view of maximizing efficiency in freight and passenger movement

Maritime Safety and Security

In the wake of the 9/11 tragedy, the International Maritime Organization (IMO) unanimously adopted the International Ship and Port Facility Security Code (ISPS Code) on 12 December 2002. The ISPS Code represents measures and procedures to prevent acts of terrorism which threaten the safety and security of ships and their crews and passengers. The NPA has begun implementing the ISPS Code.

The objectives of the ISPS Code are to establish an international framework involving co-operation between Contracting Governments, Government agencies, local administrations and the shipping and port industries to detect/assess security threats and take preventive measures against security incidents affecting ships or port facilities used in international trade; to establish the respective roles and responsibilities of all the parties concerned, at the national and international level, for ensuring Maritime security.

Implementation of the ISPS Code requires that the NPA put in place the following measures:

- Access control of personnel and individuals entering the port facilities;

- rigorous waterfront and waterline fencing of the port facilities as a line of defense to illegal entry;
- proper illumination of the entire facilities, with particular emphasis on perimeter fencing of the designated port areas; the quay structures; container parks; warehouses; transport routes within the facilities; and the visible presence of security throughout the facility, etc.,
- Conduct an assessment of the facilities of the outstation ports of Buchanan, Greenville, and Harper;
- Employ the services of a Recognized Security Organization to develop a Security Plan for the aforementioned outstation ports. The developed Security Plans which will facilitate the process of ISPS implementation in the outstation ports.

Maritime Transport & the Environment

Maritime transport mode suffers from some risk associated with infrastructure development requiring investment, operational cost and human capacity. Unfortunately, the economic base to exploit water transport for the transport of large quantities of goods such as agricultural & industrial products as well as passengers is not well developed.

Maritime transport mode should build human capacity and mainstream environmental consideration in the activities of the port and the maritime industry. In order to provide efficient and environmentally sound maritime transport, the policy direction to pursue include: -

- i. Promote waterways transport development including its infrastructure and human capacity,
- ii. Promote waterways transport for mass movement of passengers and goods in areas accessible by water so as to reduce transport demand on other modes,
- iii. Continue to liberalize and privatize waterways transport operations to make the services more efficient,
- iv. Make deliberate effort to build up human capacity related to this mode of transport,

- v. Continue to reform and privatize waterways transport institutions responsible for human capacity to make services efficient,
- vi. Ensure cost effective waste management facilities through the establishment of port reception facilities for ship generated waste and the development of an oil spill response strategy.

Public-Private Partnership in the Maritime Transport sub-sector

The NTPS seeks to liberalize and privatize maritime transport operations to make the services more efficient, productive and reliable. Reform of maritime operations at the NPA through an effective form of Public-Private Partnership is gradually transforming the port from a predominantly service-providing entity into a so-called 'land-lord' type port. The NPA is being transformed into a regulatory body, focusing on administrative activities that public entities do best (including maritime safety, environmental protection, efficient traffic flow and port development). However, port operational functions are to be concessioned. In this PPP model, the NPA will continue the management of the existing real estate portfolio in order to maintain its value. Its landlord function presupposes also the upkeep of channels, fairways, breakwaters, turning basins, berths, access roads, other supporting infrastructure and most of the superstructures. The appropriate legislation has been ratified to accommodate this type of port authority structure.

Capacity Building in the Maritime Transport sub-sector

The ports, especially the Freeport of Monrovia, are the economic lifeline of the nation. They facilitate the export and imports of goods including critical commodities such as fuel and food. But 14-years of civil unrest has caused massive brain drain and affected the efficiency with which the ports operated in pre-war times. To ensure that future growth and efficiency of the ports, emphasis is placed on the development of human resources in all facets of port management, port operations, port development and port maintenance.

RAIL TRANSPORT

Rail Transport Infrastructure

The railway system in Liberia has a total track length of 428 km (gauge) operated in the past by the National Iron Ore Company (NIOC), LAMCO JV Operating Company and Bong Mining Company (BMC).

The National Iron Ore Company (NIOC) railway had 83 km, which connects the mine site at Mano River with the Bomi Hill line about 64 km from the Freeport of Monrovia. This railroad was constructed in 1960 at the cost of about ten (10) million United States Dollars plus two (2) million USD investment in rolling stock.

The LAMCO railroad was constructed in 1963. This railroad consists of 267 km in length from its mining site in Yekepa, Nimba County, north of Liberia to the Port of Buchanan, Grand Bassa County. The cost of the LAMCO railroad was over US\$60 million of which about US\$11 million was spent on rolling stock.

| No. | Name | Gauge | Length | Route |
|-----|---------------------|---------|--------|-----------------------------|
| 1. | LAMCO Railways | 1435 mm | 267 km | Buchanan – Nimba |
| 2. | Bong Mines Railways | 1435 mm | 78 km | Monrovia – Bong Mines |
| 3. | Mano River Railways | 1067 mm | 145 km | Monrovia – Mano River Mines |

Source: fahrplancenter.com

The Bong Mining Company railroad was constructed in 1964. It is 77 km long, extending from Monrovia to Bong Range in Bong County.

The policy direction aimed at improving and expanding the railway network includes: -

- i. Integrating the railway infrastructure to capture more domestic and transit traffic by strengthening interchange and interface facilities,
- ii. Enhancement of public investment in either partnership with private sector or a Public Service Obligation for non-commercial railways infrastructure,
- iii. Ensure local capacity participation in designing, supervising and executing infrastructure works,

- iv. Develop a road transport system that makes roads feed into other modes of transport such as the railway network, hence ensuring modal complementarities,
- v. Development of infrastructure is the primary responsibility of the government.

International Railway Infrastructure

The two (2) railways – Buchanan/Nimba and Monrovia/Bong – form the major railway system which is very critical for the international haulage of passenger and goods. The lack of a National Railway Authority (NRA) in Liberia renders the railway sub-sector ineffective with lack of clear direction to pursue. To improve the railways sub-sector, national railway terminals need to be constructed and declared as Dry Port to specifically handle traffic of passengers and goods to and from rural parts of the country.

An improve rail network is desirable for efficient movement of transit traffic. To integrate the rail network for efficiency, the following policy direction will be implemented: -

- i. Develop and integrated regional railway network to enhance cooperation amongst railways in Liberia and the sub-region,
- ii. Integrate the railway infrastructure to capture more transit and other traffic by strengthening interchange and interface facilities.

Rail Transport Services

Currently there are no functional railway services and those in existence before the Liberian civil war in 1989 were not efficient enough to complement road transport and therefore need to be rehabilitated or constructed at an improved level to meet the demand of users. A number of reasons contributed to the inadequate performance of railways in Liberia including incompatibility of the two (2) rail tracks for easier service interchange, low availability of locomotive wagons and their spare parts as well as poor utilization of assets due to ineffective operation management. These constraints result into inefficient cost-effective services characterized by long delivery and turn-around time. Reasons for long delivery time included reduced speed due to gauge and poor track conditions, traffic disruptions due to derailments, inadequate and defective signaling and communication facilities and poor locomotive reliability.

Railways operation also suffers from undue competition imposed on them from the unlevelled playing field with the road transport mode.

To improve railway services, the following policy measures will be pursued: -

- i. Improve railway sub-sector performance to complement that of road transport,
- ii. Integrate railway systems and other transport modes,
- iii. Promote use of railway transport in the exploitation of natural resources especially bulky commodities from various parts of the country,
- iv. Reform the railway sub-sector in such a way as to encourage private sector investment, financing and provision of rail services,
- v. Explore avenues in which Government could play a key role in the development of the railways infrastructure in the country.

International Rail Transport Services

Rail transport services should be installed between Liberia and the neighboring countries to enable the expansion of trade partnerships. In the same vein, Liberia will strive to facilitate the provision of seamless, efficient, predictable, cost effective, safe and environmentally friendly railway services which will be responsive to market needs and provide access to transit traffic, in the most competitive manner in the region as well as other countries with land access for market growth.

To facilitate the improvement in rail services for efficient transit trade, the following policy direction will be pursued: -

- i. Harmonize railway policies with those of neighboring countries and the African continent,
- ii. Increase private sector participation in railway investment,
- iii. Enhance supportive regulatory and investor friendly legislation,
- iv. Enhance the safety of railway operations and develop common standards for customer services.

Rail Transport & the Environment

The NTPS seeks to promote the use of rail transport in the urban areas considering that it is the most environmentally sound mode. Railway transport poses some risk associated with transportation of large quantities of goods,

which might have an effect to the environment. Such goods include petrochemicals whose spill over may cause extensive damage to the environment.

In order to provide environmentally sound railway transport, the policy directions to pursue includes: -

- i. Promote rail transport for mass movements of passengers in urban areas so as to reduce the rate of pollution and congestion,
- ii. Continue to liberalize and privatize railway transport operations to make services efficient,

Public-Private Partnership in the Rail Transport sub-sector

The role of railway transport for efficient inter-modal transit traffic cannot be over emphasized. NTPS underlines the need for further development of the modal and inter-modal interface facilities and institutions. For this to happen, involvement of the private sector in infrastructure development and operation of railways through an effective form of Public-Private Partnerships is considered necessary.

Capacity Building in the Rail Transport sub-sector

Rail transport is just as critical to wholesome economic development as the other modes of transportation despite its traditionally limited use in Liberia. A new approach is therefore required to ensure the utilization of Rail as an indispensable mode of transportation. For this purpose, the use of railroads will transcend the mere export of iron ore. Re-orientation of the rail transport sub-sector to take into account the country's post-iron ore environment will be particularly crucial.

Such a rail development strategy will therefore take into account the overwhelming capacity challenges of the sub-sector. Support will be needed to build institutional, human resource and logistical capacities. These will also include:

- i. Establishment of an organ or unit to supervise, coordinate, regulate and monitor the sub-sector, and
- ii. Provision of training opportunities in fields related directly to rail transportation.

PIPELINE TRANSPORT

Pipeline Infrastructure

The only pipeline transport in the country is the one which, in the recent past, conveyed crude oil products from the Freeport of Monrovia to the refining facilities of the Liberia Petroleum Refining Corporation (LPRC), a distance of approximately 50km. Currently, the pipeline is in disuse and the refining facilities are not operational.

There are not pipelines existing or planned to transport products such as natural gas and petroleum products as is the situation in other countries. The NTPS encourages private sector investment in this mode of transport.

International Pipeline Infrastructure and Services

Pipeline is the cheapest mode for bulk long distance transportation of fluids. This mode is not given due recognition relative to its potential. For bulk long distance transport of fluids and the provision of services, the policy direction to pursue will be to encourage private investment in pipeline infrastructure and service development.

NTPS IMPLEMENTATION COORDINATION MECHANISM

The NTPS contains many policy prescriptions recommended for implementation by several government institutions. To effectively coordinate the activities of these institutions as well as monitor implementation activities, a NTPS Implementation Coordination Committee is established. The Committee is comprised of the Ministries of Public Works and Transport as well as the Liberia Civil Aviation Authority (LCAA), the National Ports Authority (NPA) and the Environmental Protection Agency (EPA). The Committee may invite, as deemed necessary, other institutions to its meeting. The Committee will be manned by at least two (2) technical personnel designated by the each ministry/agency and chaired by a ministry/agency to be named by IBS Pillar IV Chair. In addition to coordination and monitoring, the Committee will compile and submit a comprehensive report of the status of implementation of the NTPS on a bi-annual basis to the heads of the constituent institutions for evaluation and appropriate action. The Committee will formulate and submit an annual budget to the constituent institutions which are encouraged to provide the necessary resources.

REVISION PROVISION

The National Transport Policy and Strategy will be reviewed after every two (2) years by representatives of transport sector institutions and other relevant stakeholders at a National Transport Policy Review Conference in Liberia.

CONCLUSION

For the first time in the history of Liberia, a Transport Policy & Strategy (NTPS) has been developed to guide decision-making as well as foster development in the transport sector. It is obvious that transport plays a central role in economic development and progress. To achieve the goals and objectives of the Poverty Reduction Strategy (PRS) in the areas of education, health, agriculture, water & sanitation, manufacturing, tourism, mining, energy, land and good governance, the transport infrastructure and services must be developed and improved.

To achieve the above, new investment in the construction and rehabilitation of infrastructure and the provision of services must be prioritized in tandem with the maintenance of existing facilities and services to enable speedy development of strategic agriculture exports products such as coffee, cocoa, sugarcane and rice in addition to ensuring food sufficiency, developing the natural resources such as forestry, fishery and all programs geared towards environmental sustainability.

Institutional reforms and coordination are goals that the NTPS endeavors to realize during the PRS period and beyond. The social sector emphasis of the NTPS will ensure that social services reach the citizenry in remote districts and villages. Policies on international trade by road, rail, pipeline and air are also provided for in the NTPS given Liberia's strategic geographic location.

Increased prominence is given the need for capacity building and enhancement in all modes of the transport system including the need to rehabilitate existing training institutions and the provision of external training opportunities.

Realizing the goals and objectives of the NTPS is clearly a tall order. It is nevertheless doable. Essentially, it would require the effective coordination and cooperation amongst transport sector institutions and stakeholders including operators, service providers, the private sector and the government to focus their time, energy, resources and expertise on the implementation of the myriad policies and strategies in the NTPS.