

RESHAPING TRANSPORT INFRASTRUCTURE AND SERVICES IN SRI LANKA: Challenges and Opportunities

by

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Summary

Structural changes in the economy and society that would accompany continued economic growth will increase the demand for more frequent movement of people and goods with greater reliability and speed. Therefore, it is more critical today than ever before to have an inter-modal transportation system that can increase the competitiveness of Sri Lankan enterprises. It is clearly a fundamental prerequisite for economic expansion and higher living standards. But, such a system can only be created with appropriate and timely government intervention to set goals and simulate investment.

The need for extensive reshaping is felt in all sectors of the economy, but most significantly in the transportation, water supply and drainage, power generation and transmission, and telecommunication sectors, where demand in some cases have quadrupled in the last decade. For example, in the transportation sector, the cost of congestion (lost time), accidents, and lost-vehicle productivity is estimated at US\$ 110 million per year ⁽²⁾. If other indirect and social costs such as pollution, nodal (under utilized port facility) costs, and lower human productivity are included, the total annual cost will be as high as US\$ 200 million.

As the need to reduce public debt grows, the transportation authorities will have to look for sources well beyond the state coffers to finance the upgrading of their infrastructure and services. Some have found concepts such as Finance-Design-Build-Own-Manage (FDBM) and other derivatives of the Build-Own-Operate (BOO)/Build-Own-Transfer (BOT) philosophy to be the answer to their financial woes. However, the evidence to date is insufficient to conclude what, when or where they work, except that transparent national goals and policies are a must to attract private capital.

This article is intended to serve two purposes. One is to demonstrate the significance of a fully integrated transportation system encompassing all motorized and non-motorized modes. The other is to shed light on the initial role that the central government can play in raising funds for capital improvements. It is suggested

that the contribution of transportation infrastructure and services to quality of life, economic growth, and access to global markets is much too significant to be simply left to be directed by market forces. The Government of Sri Lanka should develop a staunch program of enhancement and preservation of the multi-billion rupee investment made over a period spanning two centuries.

The first government action item in this regard should be to develop a strategic plan before any new investment decisions are made, whether it be in the short or long term. It is only a fundamental pre-requisite for system development, but also for system financing, particularly through foreign direct investment or other private capital. The strategic plan should be preceded by a complete review of the sector by a National Commission reporting directly to the President. The Commission membership should include elected members of parliament, Sri Lankan experts from both the public and the private sector with experience in planning, design, construction and management of transportation infrastructure and services. Its main charge should be to:

- determine the status of and problems related to inter-modal transportation today
- determine what inter-modal transportation investment is needed to sustain future development
- propose a framework for coordination among the agencies responsible for the different modes
- identify the resources needed to enhance inter-modal transportation and potential sources of finance

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- recommend institutional, legislative and financial support needed to attract foreign and local private investment.

1.0 Introduction

As part of preparing for the 21st century, virtually every nation in the world must face the arduous task of either repairing rehabilitating or replacing some or all of the infrastructure. The need for extensive reshaping is felt in all sectors of the economy, but most significantly in the transportation, water supply and drainage, power generation and transmission and telecommunication sectors where demand in some cases have quadrupled in the last decade. Thus, decision makers and legislators all over are challenged by two fundamental questions:

- Which sector or sectors are most critical for meeting public needs and achieving national goals of the 21st century?
- How to finance the required enhancements?

Undoubtedly, there are many answers to these two intricate and broad questions. For example, all of the above sectors are important for economic growth and social well-being of a nation. But, if they have to be prioritized, the answer to the first question will depend on who, where and when you ask it. The reason being that the condition and the quality of infrastructure varies from place to place. Therefore, its impact on society is perceived differently by different individuals and decision makers at different times in different places.

Similarly, governments under pressure to reduce public debt will have to look for sources well beyond the state coffers to finance the upgrading of their infrastructure and services. Some nations have found concepts such as Finance-Design-Build-Own-Manage (FDBM) and other derivatives of the Build-Own-operate (BOO)/Build-Own-Transfer (BOT) philosophy to be the answer to their financial woes. However, the evidence to date is insufficient to conclude what, when or where they work, except that transparent national goals and policies are a must to attract private capital.

In Sri Lanka transportation is perhaps the sector that deserves immediate intervention because it is vital for unimpeded domestic growth and for businesses to complete in international markets. Thus, this article is intended to serve two purposes. One is to demonstrate the significance of a fully integrated transportation system encompassing all motorized and non-motorized modes. The other is to shed light on the initial role that the central government can play in raising funds for capital improvements.

2.0 Justification for Immediate Intervention and Investment in Transportation

Irrespective of the basic rationale behind investment, systematically planned infrastructure is known to elicit indirect economic and social returns, which amplify their overall impact on society. For example, the early colonizers of Sri Lanka developed a system of transportation infrastructure consisting of canals railways, ports and roadways for strategic purposes as well as for conveying specific produce and natural resources from the hinterland to the ships, which in turn would transport them to markets overseas and in their own homelands. The indirect impact is apparent from the land development and economic activity along the principal rail and highway corridors and around the port cities. Moreover, there is ample evidence to suggest that transportation has helped create local employment, facilitated inter-community trade and migration, alleviated poverty and increased productivity.

Today, almost 50 years after independence and 200 years after the end of the first colonial regime, Sri Lanka is economically and socially more dynamic than any other point in history. The population has surpassed the 17 million mark, the economy is expected to continue growing at over 60% and the financial community is confident that the city of Colombo can easily become the leading financial hub of the SAARC region. In the transportation sector, capacity has been added to some of the key transportation system components such as the Port of Colombo, Colombo International Airport, sections of the primary arterials and trunk roads. Similarly, the deregulation of the bus transport industry and the diffusion of external trade policies in the last decade have resulted in a 200% increase in the motor vehicle population.

However, transportation infrastructure and services have not kept pace with the changes in the economy and society. Successive administrations have over-dependended on partially rehabilitated infrastructure from the colonial era to meet the bulk of the growing transportation needs. Except for marginal increases on nodal capacity, the overall quality of the national transportation system has suffered due to inconsistent transportation policies and piecemeal investment over two decades as evidenced by the following:

- inter and intra-city travel times by road have increased almost 20% due to congestion.
- safety record has deteriorated, in that there are over 40,000 accidents per year, of which more than 1/3 are fatalities (see Figure 1)

- air quality has worsened as a result of increased vehicle emissions.
- over 80% of the bridges and roads are still either structurally deficient or functionally obsolete.
- key system components (major urban arterial and trunk roads) operate at service levels considerably below minimum acceptable levels for extended periods of time.
- poor port and airport access continue to affect terminal efficiency and capacity.
- investment in transportation remains meager by most standards (see Figure 2 and 3).

What does all of this mean? In short, it continues to ; (a) add to the cost of goods and services due to congestion-related delays, (b) keep vehicle utilization and human productivity low, (c) increase demand for imported fuel. Similarly, distressed road surfaces and incompatible geometry contribute to higher accidents and population, which translate into higher health, and vehicle operating and maintenance costs. Finally, slower and highly variable travel speeds (unreliable trip times) force industries and traders to maintain large stocks and storage facilities, and to shy away from cost strategies such as "just-in-time delivery".

The cost of congestion (lost time), accidents and lost-vehicle productivity in Sri Lanka is estimated at US\$ 110 million per year². If other indirect and social costs such as pollution, nodal (under utilized port facility) costs, and lower human productivity shown in Figure 4 are included, the total annual cost will be as high as US\$ 200 million.

The above costs reflect only the losses within the road sector. But, because of the interdependence of the modes, inefficiencies in one mode impact other modes. For example, delayed freight deliveries to the port result in missed shipments or delayed vessels, which not only adds to the cost of storage, port congestion and penalties but also result in lost business and competitive edge.

Despite all the costs, there are few indicators to suggest that investment in the sector is aimed at creating a seamless national transportation system or is adequate to reshape the vital infrastructure. As indicated in Figure 2, many developed countries with large economies invest a higher per cent of GDP in the transport sector. A similar pattern is seen in many Newly Industrializing Countries (NIC's) such as South Korea, Taiwan, Thailand, Malaysia etc. even though the exact information is not available. It is observed that many underdeveloped countries like Sri Lanka, India, Bangladesh etc. have invested a smaller per cent of GDP in the transport sector and in the infrastructure development work. In the Sri Lankan

situation, this is worse as only a very small quantum of money had been invested as its economy is small.

The new Sri Lankan administration that came into power in August 1994 has vowed to implement aggressive free market policies. This is a strong impetus for the manufacturing and the service industries to grow with even more vigor and confidence than before. The structural changes in the economy and society that would accompany this growth will increase the demand for more frequent movement of people and goods with greater reliability and speed. Therefore, it is more critical today than ever before to have an inter-modal transportation system that can increase the competitiveness of Sri Lankan enterprises. It is clearly a fundamental pre-requisite for economic expansion and higher living standards. But, such a system can only be created with appropriate and timely government intervention to set goals and stimulate investment.

3.0 Setting Goals

Judging by the present quality of services and infrastructure, it is clear that policies of the last two decades have been less than successful in meeting today's needs. The fundamental problem has been the lack of transparent and coherent goals for the transportation sector as well as the division of responsibility for the different modes among a multitude of ministries. Therefore, the first government action item related to transportation should be to develop a strategic plan before any new investment decisions are made, whether it be in the short or long term. It is not only a fundamental pre-requisite for system development, but also for system financing, particularly through foreign direct investment or other private capital.

The need for a clear vision and specific goals for the national transportation system has been demonstrated by many transportation experts and professionals. For instance, over a decade ago, Wijeyesekera⁽³⁾ outlined four principle areas that need to be addressed. Similarly, Wanigasekera⁽⁴⁾ identified four fundamental problems in the transport sector, and suggested numerous strategies, including shifts in investment priorities to enhance system performance. He also proposed the establishment of a central body for formulating policies aimed at coordinating and regulating the key players in the transportation sector. In May 1994, Kumara⁽²⁾ raised the issue once again by highlighting some of the deficiencies in the present surface transportation policies and implementation procedures. In essence, all have stressed the need for better direction and urged the Government to take immediate steps in paving the way for a high-quality inter modal transportation system. Nevertheless, it is imperative that we emphasize that national goals must be set prior to formulating or implementing policies.

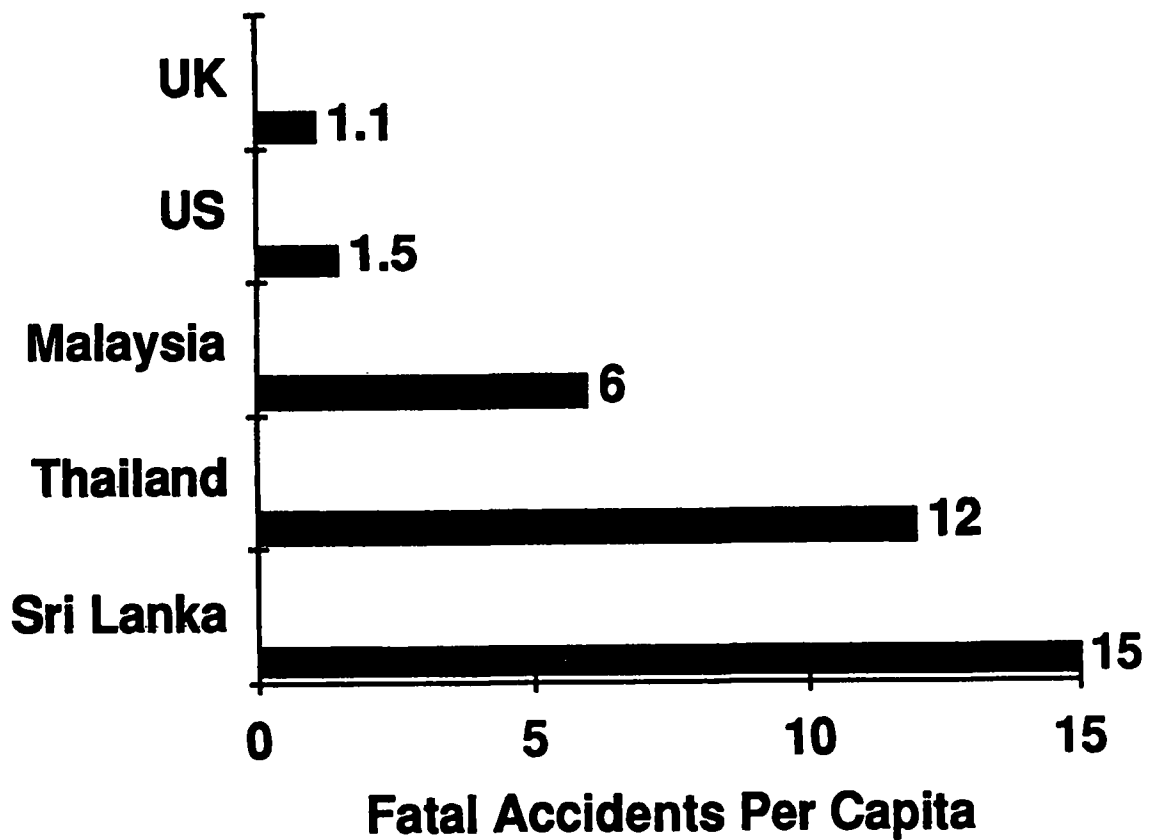


Figure 1 - Fatal Accident Rates ⁽¹⁾

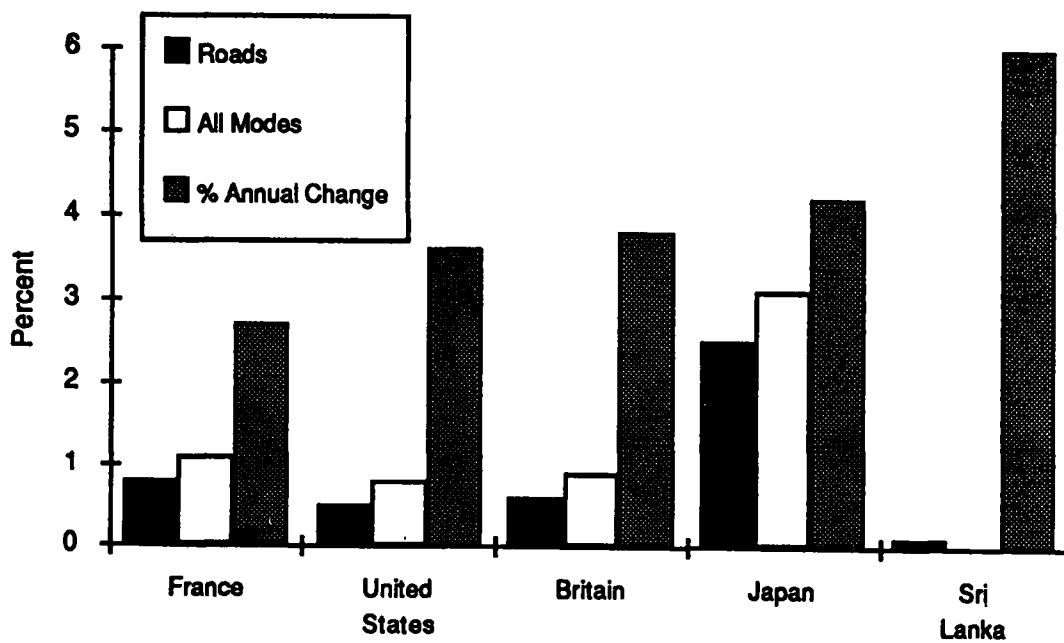


Figure 2 - Expenditure on Transportation (as a percent of GNP)

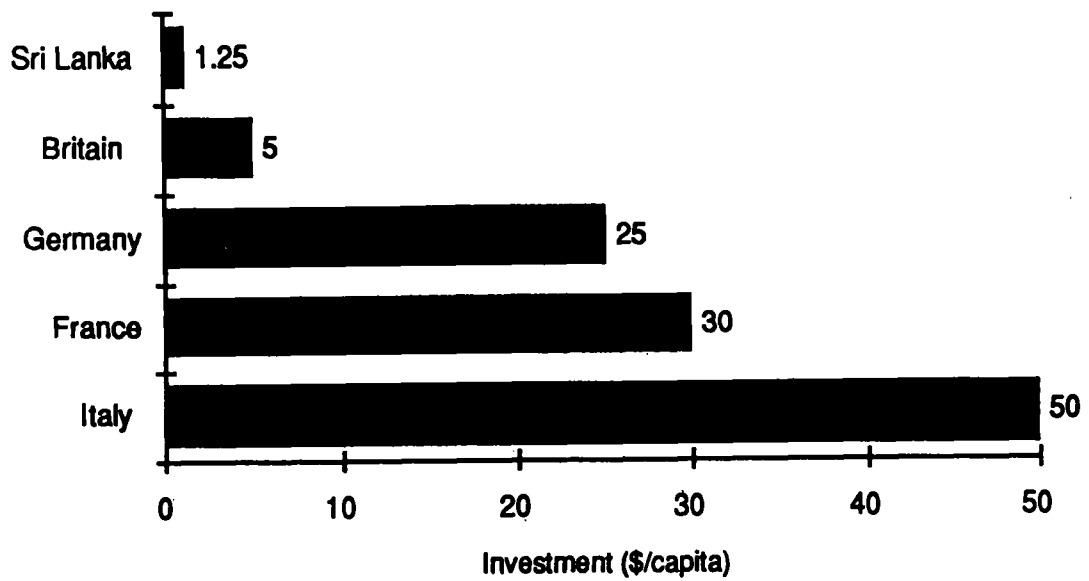


Figure 3 - Rail Investment

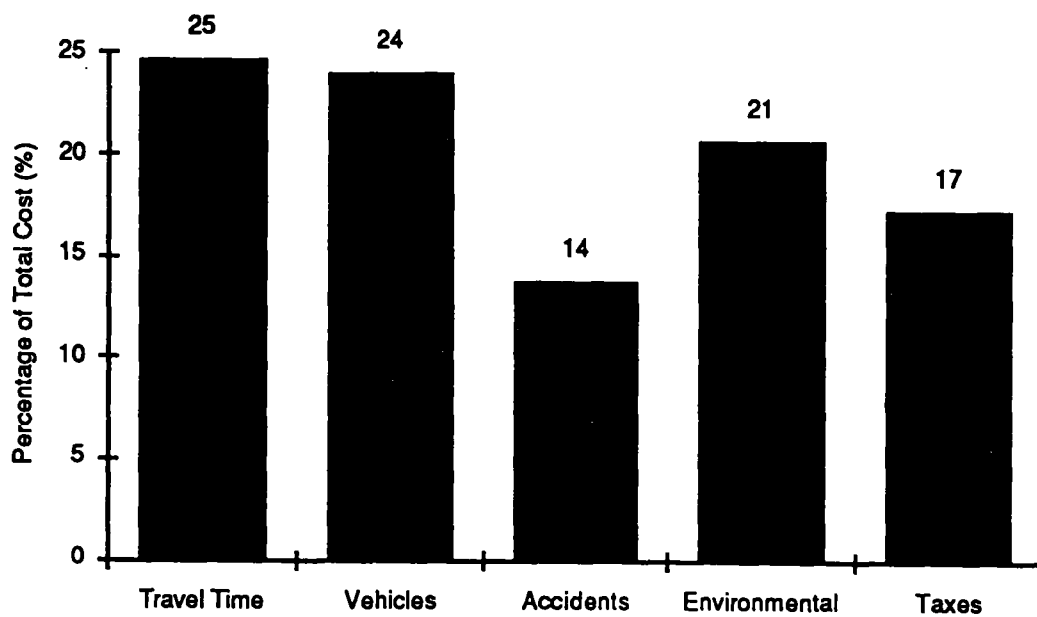


Figure 4 - Typical breakdown of direct and indirect road transport costs

if not, policies will continue to be set by foreign consultants hired by lending institutions, and the transportation sector will continue to evolve in a piecemeal fashion, as it has in the past.

Contrary to the belief of certain lending agencies, there are many highly qualified and experienced personnel who are able and willing to contribute to the process of goal setting and establishing national priorities. Ideally, the goals should be set following a complete review of the sector by a National Commission reporting directly to the President. The commission membership should include elected members of parliament, Sri Lankan experts from both the public and the private sector with experience in planning, design, construction and management of transportation infrastructure and services. Its main charge should be to:

- determine the status of and problems related to inter-modal transportation today.
- determine what inter-modal transport investment is needed to sustain future development
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- recommend institutional, legislative and financial support needed to attract foreign and local private investment

The commission should seek recommendations and comments from all interested parties. Four key areas in which input could be entertained during the process are:

4.0 Status of the Existing System

- What is the financial and physical status of transportation today? Where is it working and where is it falling?
- What are the key inter-modal bottlenecks in freight and passenger traffic that impede efforts to increase the market reach of Sri Lankan economic production and the competitiveness of business in a changing global economy?
- What are the best examples of efficient inter-modal facilities and operations?
- Are there national standards for the construction and maintenance of infrastructure?

4.2 Legal, Regulatory and Institutional Issues

- What changes and/or modifications in the government structures are needed to enhance development of an efficient inter-modal transportation system?
- Are there structural or procedural impediments to improving infrastructure capacity?
- Are there specific legal impediments such as outdated, inefficient, cumbersome regulations/laws, jurisdictional issues among governments, impediments to sharing resources, inconsistency of regulations, to facilitating inter-modal transportation of goods and people?
- Are there adequate national standards and criteria for permitting the evaluation of effectiveness of policies?

4.3 Funding & Financial Issues

- What is the level of funding currently available for transportation infrastructure and system operation, maintenance and replacement?
- What additional investment is required to meet the nation's current and future infrastructure needs as well as for provision of services?
- What, if any innovative methods and sources of financing and resources allocation are available for the above purposes?
- How can the authorities best leverage transportation investment?
- Are there significant opportunities for investment by the private sector or privatization that would permit national transportation needs to be achieved?

4.4 Technology & Training Issues

- What new technologies will enhance the efficiency of the transportation system or reduce the need for additional infrastructure?
- How can the government encourage their introduction?
- Are there specific research and development efforts in areas such as materials, construction practices, management and planning that could be undertaken in Sri Lanka to increase the productivity of the transportation system and to minimize the need for capital expenditure?

5.0 Challenges

The findings of National Transportation Commissions in other nations have suggested that inconsistent government policies, bureaucracy, finite budgets as well as piecemeal solutions to problems of national significance are often the causes for the serious gaps in efficiency and effectiveness as noted earlier. Similarly, the inquiry by the Sri Lankan Commission of the issues listed above will indicate the current status and the future direction. However, the challenge is to transform those indicators into realistic goals and objectives and establish priorities.

Regardless of the ultimate set of goals of the Commission, it should view the national transportation system as a multi-million dollar investment, which impacts the entire economy and society. This view would permit the goals to be established with the economy and society in perspective. The following are the areas that should be reflected in the goals for improving the effectiveness and efficiency of the national transportation system in Sri Lanka, whether it be publicly or privately owned.

- **National Economic and Social Goals** - The goals should be consistent with national economic and social development goals to ensure that the appropriate infrastructure and services are available at the right place, at the right time, and in right quantities and quality.
- **National Standards** - There is an urgent need to review existing national standards or targets for the design and operation of transportation system components. For example, road classification criteria, infrastructure design standards, level of service and safety standards should be reviewed and modified, where necessary to reflect changing goals as well as user experiences.
- **Responsibility & Accountability** - agencies providing infrastructure and services should be required to undertake greater responsibility to meet national standards and held accountable for any lapses in the quality of service. This will require a change in status to permit independent/de-centralized decision making and the ability to form organizational hierarchies that facilitate expeditious communication between decision makers and managers. The concept of privatization also falls under this challenge category. It is important to determine the most efficient and effective form of management if the infrastructure and services, whether it be public or private. Additionally, it is necessary to determine the optimal degree of state intervention to safeguard national and individual interest in cases where private sector participation is desired.

- **Investment** - The cost of upgrading infrastructure and other transportation system components to the desired level will be horrendous. Obviously, these funds will not be available from the state and hence the goals should reflect the need for pursuing private funding sources, at least initially in the areas of human resource development and research.
- **Human Resource Development** - In future, planning, designing and operating the transportation system will have to be performed more systematically and decisions will have to be socially, politically and economically justified. For this to be possible agencies should have access to high caliber personnel with relevant training and education. The government can aid this process by supporting applied research and specific changes in the curricula at post-secondary educational institutes, universities and professional institutions.
- **Research & Development** - Local material and technology manufacturers should be encouraged to work with transportation agencies to identify private-public partnerships in R&D.

6.0 Options and Conclusions

The contribution of transportation infrastructure and services to quality of life, economic growth and access to global markets is much too significant to be simply left to be directed by market forces. The Government of Sri Lanka should develop a staunch program of enhancement and preservation of the multi-billion rupee investment made over a period spanning two centuries.

Compared to those in many emerging nations in the South East Asia, the Sri Lankan transportation issues are less complex and more tractable. There is still a small window of opportunity to respond to the demands of the current economic and social trends. It is important therefore, to set the wheels on motion immediately by setting up a National Commission on Transportation to study the issues in detail and establish the goals. This body should have a mission different from that of the existing National Transport Commission, in that the National Commission should be one with a specific mandate to inquire and report on all aspects of the national transportation system, ranging from highways to inland waterways and airports to seaports both services and infrastructure. It should be done as an open forum, where all interested parties, either as users or non-users, will have input into directing the development of the transportation system. This open forum concept has proved itself to be an extremely effective approach to marketing and outreach, which are key to gaining ultimate public acceptance of national goals and objectives.

Such a task could be accomplished within 12 months by a dedicated group of transportation professionals and decision makers working full-time. Development of detailed long and short term plans should be accomplished soon thereafter to sustain the momentum and public interest generated during the commission inquiries. These plans will layout the design, financing and management options. Until such time, any ad hoc investments (on large scale) should ideally be avoided to ensure consistency and continuity of the national transportation system.

When the time comes, financing will be the most critical of the decisions that the legislators will have to make. Transparent goals and objectives will simplify the process of finding the best financing option. It is for this reason that we are strongly proposing a National Commission on Transportation to set the stage for enhancing the quality and status of the national transportation system, which will serve as the backbone of all socio-economic development programs in Sri Lanka.

7.0 References

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