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***“Can the Transport Sector Continue to be a Driver of
Economic Activity in Sri Lanka ?”***

Delivered by

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JOHN DIANDAS



Mr. John Diandas was born in India as a British Citizen in April 1924.

He was a Fellow of the Institute of Chartered Accountants, and a Senior Partner of A.I. Macan Markar & Co, Chartered Accountants. Though being an Accountant by vocation, there were many professionals in Mr Diandas. He was an active Energy Economist, and was among the first few non-Engineers to be awarded the membership of the Sri Lanka Energy Managers' Association. His knowledge in Environment and Urban Planning was profound, but the discipline

closest to his heart was transportation.

Mr Diandas, during his long and exemplary professional career, was actively involved in a number of fields, including bus operations planning and policy, rail transportation, company law, energy management and economics, climate change and national environment. He held the position of the Chairman of the National Transport Commission from December 1994 to March 1997. He also served as a Director of the Ceylon Transport Board in the early 1960s, and as a member of the Boards of the Ceylon Tyre Corporation (1970-1974), the Building Materials Corporation (1976-1977), the Urban Development Authority (1994-1997), the Western Province Transport Authority (1995-1998), and the Railway Management Council (2000-2001). Mr Diandas served as the Chairman of the Central Advisory Committee to the Minister on CTB affairs in the early 1980s. He also headed the Transport Policy and Pricing Sub-Committee of the National Development Council's Working Group on Transportation, and contributed in compiling the Bus Policy Report in 1999/2000. Mr Diandas served, without accepting any payments in consideration, in many other policy advisory committees appointed by the Government.

In recognition of his services, the then Chartered Institute of Transport – Sri Lanka elected Mr Diandas as its Chairman for the years 1988 and 1989, and he was the third to hold this position.

He passed away on the 15th of July, 2002.

JOHN DIANDAS I KNEW

I am deeply honoured to have been invited to deliver the 9th John Diandas Memorial Oration today. When the CILT invited me to deliver this oration, I accepted it with a deep sense of respect and reconnaissance to Mr John Diandas, a multi-disciplinary professional, a gentleman par excellence, as well as a ‘Guru’ for many of us in the field of transport today.

I first met John at a seminar on Energy Demand Management and Conservation held in Colombo in 1984. Being a young graduate researching in the field of Energy, I was impressed by the very enthusiastic and enlightening intervention made by that small-made and humbly-dressed but deterministically spoken personality. What struck me most in his intervention was the compelling view expressed by him that a strategic development of public transportation, particularly the railway sector, would be imperative if the economy is to achieve energy sustenance in the long-run. I still remember him very eloquently presenting his case for a “public transport first” policy in this country, instead of “cars-first” policy, in his own words, which I believe has made a deep rooted impact in my subsequent career path, and in the choices I made later in my life.

John was a true defender of public transportation. His deep voice reverberated in all forums and meetings he attended, for the benefit of the public transport user. His was clearly a different view-point against the then prevalent mainstream thinking. He called upon for more public funds allocated for railway development at a time when railway sector was quasi neglected, and vehemently criticised the “highway drive”. He perhaps would have been the first in Sri Lanka who publicly opined that the construction of highways would be nothing more than chasing after a mirage, where the more you try to approach, further away the object would move. He advocated implementation of policy measures to discourage the use of private transport modes and low-capacity vehicles. He called for rail and bus priority, at a time when the lobby was in favour of private transportation. He strongly opposed the suppression of public transport fares without duly compensating the operators for any revenue shortfall, and claimed that such an uncompensated exploitation of capacity would destroy financial health of public transport providers, particularly the Sri

Lanka Railways and the Ceylon Transport Board. As the Chairman of the Bus Route Planning Committee, he was instrumental in planning and implementing the linked bus services through Colombo City, such as Route Number 138, Kadawatha - Maharagama service. He was a guardian of bus stops at main junctions, and sometimes was even at odds with traffic regulators who attempted to remove bus halts and locate them away from the traffic centres. Had he been alive, any effort to remove the South-bound bus service along the Galle Road, possibly eliminating the convenience of rail-bus interconnection at Bambalapitiya, would surely have received his strong opposition and professional resistance. John was firm in his opinion that the ineffective road space utilisation was owing to low-capacity vehicles such as cars, and not owing to buses, and if any chasing away was needed, it should be cars and not buses ! He was at the receiving end from many corners for his opinion, but he was never shaken. He not only stood firm, but also encouraged all who worked with him to keep fighting for the right cause.

Had John been alive, he would have rejoiced of the fact that many such opinions expressed by him in the yesteryear have now become widely accepted. He would have been glad to see that his utmost wish, the “public transport priority”, has now been officially recognised as the underlying policy guide in Sri Lanka’s transport sector. Yet, he would still have been persevering to see that such policy statements are not confined to paper, but implemented in their true and progressive sense in view of pursuing the country’s socio-economic development.

I will never forget my last meeting with him not long before his demise in 2002. In the discussion, he firmly stated that we had no right to be discouraged or disappointed in seeing what was going on in the transport sector. As a good Buddhist, his perception of impermanence had made him believe that situations, however bad they were, could be changed with perseverance. He insisted that we should keep on fighting, and we had no right to give up, if he, at his age, could still look forward positively and fight on, despite the disappointments being much greater than the successes from his efforts in his career of over fifty years.

John, we miss your encouragement very much today !

Can the Transport Sector Continue to be a Driver of Economic Activity in Sri Lanka ?

1.0 National Economy and the Transport Sector

Transportation is a vital element of wellbeing and development of any economy. It provides the required mobility for people and goods, and enables access to places and markets. It serves as the medium through which the resource endowment differences among localities and social segments are smoothed out. Being a country with a tradition of exchange with the rest of the world, the role played by the transport sector in the economic development of Sri Lanka has been significant throughout the history. Studies also indicate significant contributions made by the transport sector towards social development of post-independent Sri Lanka. The operation of public bus services by the Ceylon Transport Board (CTB), providing mobility to general public all over the country and enabling them to access places and services, appears to have had a significant influence over Sri Lanka's outstanding performance in a number of social development indices¹, which are generally considered to be direct results of public expenditure on health and education sectors.

The challenge faced by the transport sector during the first few decades since independence was basically in the provision of basic services. The low levels of income received by people and the consequent deficiency of effective demand in the market, together with long pay-back periods of transport related investments and the welfare oriented political ideology that prevailed since mid 1950s, made the industry a service-oriented, non-profit seeking and essentially State-funded sector in the economy². Thus, the focus was to expand the capacity of transport infrastructure (such as road development), to provide

¹ These preliminary indicative outcomes of current research, undertaken at the University of Colombo, need confirmation through further investigations.

² Except in a few selected areas (such as freight transportation) where private sector involvement was dominant.

accessibility to regions and rural areas, and to ensure basic mobility of people at affordable prices through State-owned transport operators.

Given the low level of market competition, demand conditions insisting less qualitative parameters (such as punctuality and standards) and comparatively low values assigned for travel time, transportation has been essentially supply driven, with insignificant pressure to be cost conscious, efficient, competitive or to manage the demand.

The role expected to be played by the transport sector has thus been one of being a "supporter" to the process of socio-economic development. The evolution of the sector has essentially been pulled by the pressures exerted from socio-economic development, including economic growth, rise in per capita income and in trade, in addition to being closely influenced also by political concerns. The sector therefore evolved with a lag, resulting in the commonly observed "backwardness" and capacity constraints in service provision. These fundamental characteristics, particularly visible in public land transportation, do not seem to have significantly changed, despite the economy reaching a per capita income level of USD 2300.

It is with this background that the economy is intending to double its per capita income through a phase of accelerated economic growth of over 9% per year over the coming five years. Could the transport sector successfully withstand the demand pressures emanating from such a high economic growth rate and continue to play its traditional role of "supporting" the process of development? What would be the implications of such rapid economic growth on transportation and related activities? How best could any undesirable eventualities³ be minimised? How should the transport sector be reformed and geared to successfully take part in realising the intended high growth scenario? The first two questions are on the opportunities and pressure the transport sector and its stake-holders are likely to face under the assumption that the growth projections are realistic, while the second two questions calls for policy and strategy oriented answers.

³ Such as pollution, congestion or accidents

2.0 Macro-economic Outlook and the role of Investment

Sri Lankan economy is projected to have an annual real economic growth rate of more than 9% in average over the next few years. A summary of the projected medium-term macroeconomic framework by the Central Bank of Sri Lanka is given below.

Table 1 : Medium-term Macroeconomic Framework

Indicator	2010	2011	2012	2013	2014
GDPMP (Rs Bn)	5602	6440	7405	8513	9790
Real GDP Growth (%)	8%	8.5%	9%	9.5%	9.5%
Per Capita GDP (USD)	2399	2794	3200	3660	4190

Source : Annual Report- 2010, Central bank of Sri Lanka.

What is the scale of the impact of this expected high growth scenario on the country's transport sector? Let us investigate the growth projections and underlying parameters for a five year period from 2011 to 2015 in order to perceive the gravity.

A real growth rate of over 9% during the next five years will mean the Sri Lankan economy reaching a Gross Domestic Product of approximately 12 Trillion Sri Lankan Rupees at current market prices⁴, reflecting a per capita GDP of around USD 4800, almost double the per capita GDP of 2010. This would amount to an average per capita income growth (at current market prices) of around 19% per annum over the coming five years⁵.

⁴ This estimate is based on the implicit assumption of the general price level increase of less than 7% per annum.

⁵ Assuming that the exchange rate would depreciate at the same rate as experienced over the past four years, and the population would grow at 1% per year.

Macro-economic relationships imply that such a growth scenario would associate with corresponding realignment among components of the resource balance. Key to understanding the possible trends of such a realignment would be to appraise the behaviour of investment. Thus, it is proposed that this discussion be focused on this vital aspect, namely the behaviour of investment, in appraising the challenges faced by the transport sector in continuing to support economic development.

2.1 Growth – Investment Dynamics

Investment is the economic activity which is instrumental in building up the capital stock of an economy (or a sector) to ensure future productive capacity of that economy (or sector)⁶. Thus, investment becomes an essential determinant of growth and development.

The degree of contribution to the national (or sectoral) value added by the capital stock of the economy (or the sector) is determined by the investment productivity, the inverse of which is indicated, at an aggregate level, by the measure called Incremental Capital-Output Ratio (or ICOR)⁷. Higher the ICOR, lesser would be the marginal or incremental productivity of capital, meaning that a larger increment to capital stock (higher rate of investment) would be required to achieve a targeted increment in GDP (or a targeted economic growth rate).

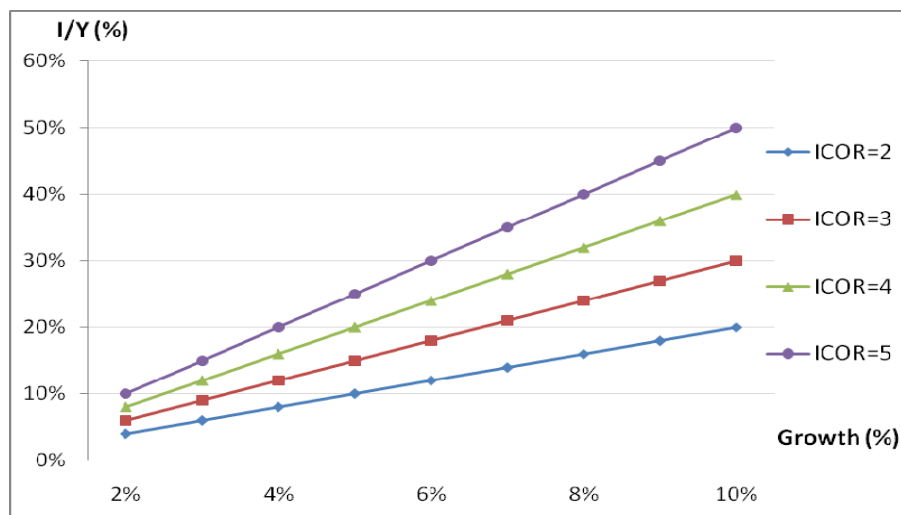
Sri Lanka's ICOR currently figures around 4.5, meaning that an addition of 4.5% of GDP to domestic investment is required to achieve an incremental economic growth of 1%. Thus, the economy would require an investment ratio of more than 40% of the Gross Domestic Product over the period under consideration for it to sustain a growth rate of 9% per annum. This would necessitate an increase of investment of over 200% by the end of the coming

⁶ Capital expenditure on new busses or railway locomotives, for example, will strengthen the fleet (the capital stock), which enables enhanced delivery of transport services.

⁷ $ICOR = I / \Delta Y$, representing the inverse of capital productivity.

five year period compared to its current values, which translates into an average growth rate of investment of over 26% per year sustained during the next five years, if an average of 9% real GDP growth rate per year is to be achieved.

Figure 1 : ICOR and Investment intensity of Growth



2.2 Economic implications of a high-growth scenario

Increased investment requirement, together with the downward rigidity of consumption ratio commonly observed in developing economies with large share of low income earners⁸, tend to widen the macroeconomic resource gap⁹. This needs to be bridged through net import of resources to the economy. An estimate, based on a favourable inflation ratio of 7% and an assumed

⁸ Also, with the income elasticity of consumption of low income groups being high.

⁹ Resource Gap = Consumption + Investment – GDPMP

consumption ratio of 73% over the period under consideration¹⁰, would indicate a widening of the net imports ratio to 14% from current levels below 10%.

Table 2 : Estimated Macroeconomic Parameters - 2015

Parameter	2010	2015	Growth
GDP @ Market Prices (Rs Bn)	5602	12200	9.2% p.a.
GDP in 2010 Prices (Rs Bn)	5602	8698	
Per capita Income (USD)	2400	4400	
Consumption (C), in Rs Bn C /GDP (%)	4557 81%	8900 73%	
Investment (I) (Rs Bn) I/GDP (%) Investment (Rs Bn 2010 Prices)	1557 28% 1557	5050 41% 3601	225% 130%
Exports(X) - Imports(M) in Rs Bn (X-M)/GDP	- 512 -9%	- 1750 -14%	- 240%
Total Trade (X+M), in Rs Bn Total Trade (volume Index)	2942 100	6900 170	135% 11% p.a.

Assumption : No drastic structural changes would intervene in the interim

Is this a pragmatic scenario ? Widened trade gap inevitably means eating up of a larger proportion of factor income from abroad to finance it, or increased foreign debt. Neither can be considered healthy in view of economic as well as political independence of the nation.

¹⁰ Consumption ratio of 73%, targeted by the CBSL for 2014, was used in this analysis. The economy never had it below 80% for the past 50 years, irrespective of the per capita income rising to USD 2000 from USD 100 in 1959. The lowest recorded was 80.1% in 1984, while the highest has been 91.9% in 1975.

2.3 Growth implications within the Transport Sector

The accelerated growth would require economic sectors also to grow fast. Accordingly, the service delivery capacity of the transport sector will have to be augmented to meet the targeted value generation.

Transport sector currently constitutes approximately 12% of the country's GDP. It has been observed that the transport sector's share of the country's GDP increased with the per-capita income growth. Increased affordability of the people to meet their mobility requirements, and increased volumes of trade associated with economic growth, could be behind this trend.

A conservative projection would be that the transport sector would have to contribute approximately 12.5% of the country's GDP. For this to happen, the sector would have to grow by an average of over 17% per year in nominal terms, or over 10% in real terms.

2.3.1 In practice, where does this necessity to grow stem from ?

Firstly, it would be from the transport and logistics demand that would be generated by the rapid growth in international trade associated with the above described resource gap. Having to increase imports at a rate greater than that of the exports growth inevitably leads to an expansion of Sri Lanka's overall international trade (imports plus exports of goods and non-factor services) by about 135% in current market prices¹¹ over the next five years. This would be an annual growth of 11% in volumes of international trade. In terms of physical units, this would correspond to the ports of Sri Lanka having to handle, within a year, almost one million TEUs of import and export cargo alone annually by 2015¹², compared to little over 500000 TEUs of containerised import and export cargo currently handled.

¹¹ Export estimates for 2010-2014 in the the CBSL Annual Report-2010 were used, Exchange rate was assumed to experience the same trend as during 2005-2010.

¹² Under the assumption that bulk and containerised cargo would experience the same impact of this import and export volume growth.

Sri Lanka has never experienced such a high growth rate of foreign trade in volumes. For example, the growth of import and export volumes during 1997-2007 has just been 5% and 4% per annum respectively. What is to be faced within the coming five years would be more than twice that.

Next, the growth of other economic sectors with high transport and logistics intensity would add significant demand pressure on the sector. Tourism and Fishing are two such sub-sectors expected to grow fast over the next few years¹³. Tourism, for example, displays high transport intensity with almost one-third of the expenditure made in the economy by a tourist would be on transport and tour-related services. This would be even up to 60% if the expenditure on international air travel is spent on a Sri Lankan source. With tourist arrivals targeted to exceed 2 million by 2016, the transport sector should be prepared to produce value exceeding USD 1 Billion per year on tourism alone by five years from now¹⁴.

Last, but not least, the demand for mobility would stem from increased affordability of people as a result of high per capita income growth¹⁵. In Sri Lanka, the average income elasticity of travel demand during the last five years between 2005 and 2010, for example, has been 0.7 for all modes. Private modes indicated a higher income elasticity of 1.3, while public transport modes showed a lower elasticity of 0.43.

Projections made for the coming five year period based on the above elasticity estimates would indicate alarming trends. Passenger travel demand would experience an increase of more than 60% during this period, indicating an average annual growth rate of 10%, compared to 7% annual growth observed during the previous five year period.

¹³ Mahinda Chinthana Ten Year Horizon Development Plan 2006-2016, DNP.

¹⁴ Based on the assumption that a tourist would stay, in average, 6 days per visit, and spend USD 250 per day, by 2015. The estimate would be greater if an average stay of 12 days per tourist in 6 years, targeted by the DNP, is assumed.

¹⁵ Dargay J et al (2007) explains this effect using "Gompertz curves" in their article on Vehicle Ownership and Income Growth 1960-2030.

Table 3 : Projected Passenger Travel demand and Vehicle Fleet

	2010		2015	
<u>Travel Demand (in Mn Pax km)</u>	94127		153980	
Demand for Public Transportation	(62%)	57956	(51%)	78742
Demand for Private Transportation	(38%)	36171	(49%)	75238
Railway Share	(4.6%)	4353	(5%)	7700
Road Transportation	(95.4%)	89774	(95%)	146280
Road Public Transportation		53603		71042
<u>Load Factors (Ave Pax/Vehicle)</u>				
Buses		47		50
Private Vehicles		2		3
<u>Road Vehicle Kilometres (in Mn)</u>	19158		26500	
Buses	(6%)	1140	(5%)	1420
Private Vehicles	(94%)	18018	(95%)	25080

Note : Transport data bases maintained and updated by Kumarage, A S, and Jayaweera, D S. were used to for the computation of elasticities for 2005-2010.

Our economy, and particularly her road network, thus will have to be capable of shouldering the cost and load of almost 40% more private vehicles and approximately 25% more buses by 2015. These requirements will be even higher if the Sri Lanka Railway fails to maintain by then its current market share of approximately 5%, and the private vehicles do not achieve an average loading of 3 passengers per vehicle.

Implications would be many. Investment requirement on fleet augmentation itself would be enormous. The State and private bus operators, for example, would have to add more than 6000 buses to their fleets anew for this fleet augmentation within the next five years, in addition to what is required to replenish depreciated stock. This alone would mean a capital expenditure requirement of around Rs 24 Bn. A 40% augmentation of the private vehicular fleet would mean much greater scale of capital expenditure requirement on fleet expansion. This capital expenditure burden would reflect entirely on the external account of our economy as almost all new capital additions on motor vehicles have to be imported. All these will put additional pressure on already congested urban and sub-urban roads, causing the requirement to expand the carrying capacity of the country's road network. Needless to emphasise the scale of financial and other challenges the sector and the economy are bound to face in having to meet such a road capacity expansion within a short period of five years.

2.4 The Puzzle and the Solution

The challenge is therefore evident. On the one hand, the pressure on the ports, customs, warehousing, roads, transportation and other logistics related operations, in aligning with the imperatives of this accelerated growth scenario would be quite significant, and a failure to live up to expectation would put the entire growth process at risk. On the other hand, investment requirements to develop transport infrastructure and logistics in view of successfully meeting the demand would be quite substantial, and such high levels of investment, funded through external borrowings, would be unsustainable, and could drive the economy to instability. Either way, the outcome would be undesirable.

Would it be strategically possible for the economy to find a way out of this apparent ambivalence? The key to solve this puzzle is found in capital productivity itself, where improved capital productivity would reduce the degree of factor inputs needed to achieve a given output target, both at aggregate and sectoral level.

Let us consider, for the sake of analysis, an improved overall capital productivity scenario represented by an ICOR value lowered to 4.0. What would be the implications on the macroeconomic parameters ?

Table 4 : Comparative Macroeconomic parameters at Improved ICOR

Parameter	ICOR of 4.5	ICOR of 4.0	Impact
GDPMP (Rs Bn)	12200	12200	
GDP Growth rate	9.2% p.a.	9.2% p.a.	
Per Capita Income (USD)	4400	4400	
Consumption (Rs Bn)	8900	8900	
C/GDP (%)	73%	73%	
Investment need (Rs Bn)	5050	4490	-11%
I/GDP (%)	41%	36%	- 5 points
Investm need (Rs Bn 2010 Pr)	3601	3201	- 9%
X - M (Rs Bn)	- 1750	- 1190	-32%
(X-M)/GDP	-14%	-9%	5 points
X+M (Rs Bn)	6900	6385	-8%
X+M (volume Index)	170	156	-8%

The investment demand to achieve the 9% growth rate drops by 11%, bringing the required investment ratio to more realistic, but still ambitious, 36%. The resource gap thus drops to 9% from 14% under the prevalent ICOR of 4.5. The growth path thus becomes more sustainable as the long term effects of having to borrow to finance resource gap would be less. The horizon becomes much more realistic and achievable.

This transpires into the transport sector as well. Reduced resource gap would mean a comparatively lesser rate of growth of imports required for a given rate of export growth. The economy therefore would become less foreign trade intensive, and the resultant total international trade growth over the five year period, required to achieve the economic growth target of 9%, would be little over 117%. This implies a reduced trade requirement in volume terms of approximately 9% compared to 11% required under the ICOR of 4.5. The burden on ports and other trade-related transport and logistics services would be eased to that extent, making the entire growth scenario achievable in the ground level as well.

3.0 Capital Productivity: How to approach?

Enhancement of capital productivity at the macro level pre-requires capital efficiency gains in the level of individual sectors and industries. Thus, the transport sector, securing a significant share of the State's capital resources¹⁶, shoulders a special responsibility to be more productive in its capital.

Capital productivity improvement requires a long term and persistent strategic intervention to ensure (a) high productivity of new investment, and (b) improved productivity of the existing capital stock. The former is relatively easier as it is regarding decisions to be made. The latter, however, concerns of decisions taken during bygone era, and hence difficult to change¹⁷.

This applies to all sectors of the economy. Making the existing capital stock in the sector more productive, and exercising diligence in planning and implementing transport related new investment, therefore become extremely important if the transport sector is to realistically shoulder the challenges of accelerated economic growth with less effort and sacrifice.

¹⁶ Transport sector (including ports, aviation and highways) secured over 18% of the total Governmental capital spent, and nearly 10% of the GDCF, in 2010. Expenditure on highways alone accounted for over 6.5% of the economy's GDCF..

¹⁷ Excess capacity of a sector, if any, may be deployed within a short period of time, enabling a rapid augmentation of the average productivity of capital stock.

3.1 Diligence in Capital Spending

What produces the value added is not the “expenditure” made, but the “asset created”. Recorded in the national or sectoral statistics is merely the expenditure incurred and not the qualitative and quantitative measures of the accumulation of physical capital. Amounts of rupees or dollars spent on a transport related project, therefore, would not mean much unless such are fully and effectively deployed in creating a productive asset. Any leakages in the process, inefficiencies or over-expenditures, thus, lead to a gap between the expenditure made and the value of output generated. As the creation of future value added depends on the capacity of capital assets generated and not on the expenditure made on them, such gaps will inevitably give rise to poorer implicit investment productivity estimates, or higher ICOR values.

Investment appraisal, a vital exercise undertaken prior to making investment decision, helps ensure productivity of new investment. In the case of investments made by the private sector, a financial viability assessment is imperative in investment decision making, as the purpose of investment would be profits. Thus, the capital productivity in private sector projects is automatically taken care of. Such a natural compulsion does not exist with regard to State sector projects mainly because the decision makers are aware that they are not at financial risk of any losses incurred owing to implementing an unviable investment. Therefore, explicit measures and procedures are required to ensure that public sector investment decisions are based on a proper assessment of their socio-economic viability.

Calling for competitive bids for procurement based on pre-determined specifications helps capital efficiency as the procurer would then have the choice of going for the most productive alternative. This opportunity is absent when unsolicited offers are entertained with no competition, and the possibility of over-estimated capital expenditure cannot be ruled out under such circumstances. Extra care is thereby necessary to ensure that the quoted investment figures are reasonable and not excessive.

Increasingly large proportion of projects implemented in the transport sector appears to be from unsolicited offers where only a single proposal is available for appraisal. To that extent, the role of planning becomes more important to ensure capital productivity of new investment.

Table 5: Selected Railway Projects in the Process of Implementation

Project / Procurement	Domicile of Contractor	Value of Investment
Coastline track rehabilitation KTS-MTR	India	USD 89.0 Mn
Talaimannar rail track (106 km) reconstruction (MWH-TMP)	India	USD 231.0 Mn
Jaffna rail track reconstruction (OMT-PAL, 91 km)	India	USD 185.4 Mn
Matara-Beliatta new rail track construction (28 km)	China	USD 250.0 Mn
20 DMUs from India	India	USD 70 .0 Mn
13 DMUs from China	China	USD 121 Mn
15 Pakistan Tank Wagons	Pakistan	USD 2 .0 Mn
Signaling & Telecommunication in the Northern Line	India	USD 86.5 Mn
Procurement of Railway Bridges	Belgium	USD 7.0 Mn

Bench-marking capital investment could be useful for planners and policy makers in minimising the possibility of incurring excessive capital expenditure in public sector projects¹⁸, particularly when competitive bidding procedure is not adopted.

Table 6 : Estimated Bench-mark Costs for Selected Railway Projects¹⁹

Activity / Capital Asset	Unit	Bench-mark Cost (Rs Mn)
New construction of rail track (for 100 kmph travel speed)	Per kilometre	60
Procurement of Rails UIC 60	Per km of single track	15
Procurement of Concrete sleepers	Per km of single track	14
Procurement of railway bridges	Per Tonne of Plate Girder (aprx 0.85 T/ft)	1
Complete Signalling and Communication system	Per kilometre	25
Procurement of New Coaches	Per carriage	40

Key is to acquire the required quantum of a capital asset of a pre-determined quality at the lowest possible capital expenditure. Higher than acceptable ICOR levels indicate that this requirement has not been sufficiently met, and that there is scope for improvement in future investment decision making.

¹⁸ Private sector investment decision is based on their financial viability, and hence this concern is generally taken care of through market forces.

¹⁹ Estimated in 2010. May depend on quality and technical specifications.

3.2 Effective usage of capital assets

Creation of a capital asset with the required efficiency is not a sufficient condition to ensure the generation of the expected growth impetus. Its deployment and effective use in its intended purpose are also imperative. Any asset created through capital expenditure, but not effectively used, amounts to a waste.

There are, unfortunately, a number of such unused or poorly used capital assets in the transportation sector. Kelaniya new railway bridge still unused even after 5 years of its completion at a cost of Rs 950 Mn. Nilwala Ganga railway bridge, completed in 2007 at a cost of Rs 320 Mn is suffering the same fate. It took nearly seven years since completion in 2001 to put the Mattakkuliya road bridge, constructed at a cost of RS 240 Mn, into full use. Kelanisiri road bridge, Japanese funded Load Testing Plant at Ratmalana railway workshops and the new facility to rebuild railway carriages at Dematagoda, are among other examples of investment in capital assets which lie idle.

Poor conception of projects, inadequate planning, delays in associated sub-projects, or simple abandonment owing to change in political or administrative leadership are commonly perceived causes. Whichever the case may be, their avoidance would help improve capital productivity in the transport sector, thus enhancing the growth impetus of transport sector investments.

3.3 Operational efficiency

Assets so created with capital efficiency, and put into use, need to be properly managed to deliver economic benefits. Efficacy of planning and implementing projects would become futile if they are improperly operated and managed in producing services. Properly deployed and managed capital assets would generate value to the optimum levels, thus reducing the pressure on infrastructure and other capital assets to expand unnecessarily. Operation of public buses and trains at reasonable load factors, for example, would help transport sector enhance its capital productivity, thus enabling the sector to satisfactorily support economic development process with the smallest possible rolling-stock fleet.

The market today is much more competitive than a few decades ago. It requires a broader spectrum of qualitative parameters, including punctuality, standards, comfort and speed, in addition to traditionally expected connectivity and mobility at affordable costs, to attract customers. Unlike a few decades ago, the customers have a wider choice open to them, and their affordability levels of costlier alternatives have increased. Thus, the public transport sector and its operators will have to look beyond the current horizon, and reform themselves to face the evolving demand conditions, if satisfactory patronage of the services they offer is to be expected.

Railway service, for example, would continue to lose its passenger market share unless it is reformed to become more customer oriented, and capitalise on its comparative advantages in providing long distance services of quality with shorter travel times, and commuter services with more capacity, reliability and punctuality. Intercity express operation, if properly planned, pitched and marketed, is likely to fetch demand. Attention of policy makers should be drawn to explore this possibility as without greater patronage of railway by passengers and freight customers, the transport sector would not only become incapable of supporting economic development, but also will become a retardant of development process through wide-spread generation of negative externalities.

3.4 Minimising growth-destructive effects

Managing externalities is another parameter of strategic importance. This is because the negative externalities of transport sector, expected to be generated in much larger proportions owing to the demand-pull growth of transport-related activities, could, in return, become growth destructive. For example, the growth of private vehicle fleet by 40% in 5 years, expected under a high economic growth scenario, would cause severe pollution, congestion, and accidents. This could undermine the growth and development process through negative social and economic implications. It would be the urban poor who would be exposed and most affected from such externalities. Fuel consumption would go up in parallel to the vehicle kilometres operated, and a significant proportion of such costs would be borne by the general public to the extent that fuel would be priced below true costs.

Offering road space free for motorists is a social injustice because it would be the rich who would benefit at the cost of welfare of the poor. Furthermore, our motorists do not efficiently utilise the scarce road space provided free of charge for them. The result would be operational inefficiency, thus calling for structural adjustment within the transport sector in favour of public transportation²⁰.

Hence, not only the diligence in capital spending, but also minimising wastages, leakages and over-expenditures, as well as proper planning of capital projects to avoid idling or under-utilisation of assets, become imperative. It is necessary to maximise operational efficiency and minimise negative externalities. These are essential requirements for the transport sector to better serve as an effective “load bearer” of national economic development in the medium to long run.

4.0 Exploiting investment beyond Capital Accumulation

It is the conventional role of investment, namely, the building up of the capital stock, which has largely been played in the transport sector in the recent past. Investment has been made for the purpose of capital accumulation, in view of ensuring future productive capacity in the sector. A bridge or a train or a signalling system has been looked upon merely as a required capital asset to operate trains, and hence to produce transportation benefits. Little appears to have been done to think beyond this traditional horizon.

Yet, the capital expenditure could stimulate another economic spiral through its “demand creation effect”, potentially much wider than what is fuelled by the “asset creation effect”. A capital expenditure made has the potential of multiplying its income generation effects over and over again when such expenditure is ploughed back into the national economy²¹. A marginal

²⁰ A policy which was persistently advocated by Mr Diandas.

²¹ To harness this potential to the maximum, development projects have to be carefully formulated such that the economic linkages are fully exploited to the benefit of the domestic economy.

propensity to consume of 0.75, for example, provides for a multiplier of 4, meaning the theoretical possibility of securing four times the investment value as economic benefits over the years, in addition to the value generated through usage of the asset.

For this, investment programmes need strategic formulation. Projects have to be developed in such a manner that the domestic economic forces would be used to the maximum possible extent in creating assets so that the value addition, in the process of asset creation, would accrue to the national economy. Projects executed by foreign agencies, for example, would add less value within the local economy, depriving the local enterprise of possible opportunity to earn, grow and further invest in the economy.

4.1 Trends observed in the recent past

Let us take the example of railway track construction in Sri Lanka. Historically the job was done locally, by the Sri Lanka Railway, using material inputs from abroad when such could not be sourced locally. Even for the procurement of material, the competitive bidding procedure was adopted by and large, resulting in cost effectiveness in inputs. The technology unavailable with us was obtained through procurement at competitive prices. The projects were thus implemented in achieving both benefits, namely (a) construction of the asset (in this case the railway line) to generate value addition in train operation, and (b) creation of linkages to the maximum possible extent within the local economy through which “construction related” value added, and many other multiplied economic value generation spirals, would be stimulated. The recent pride of Sri Lanka Railways, in this regard, was the reconstruction of over 60 km and damage repair of another 40 km of the Tsunami affected Coastal railway line in 56 days in early 2005, exclusively by local effort, at an estimated cost of Rs 450 Mn.

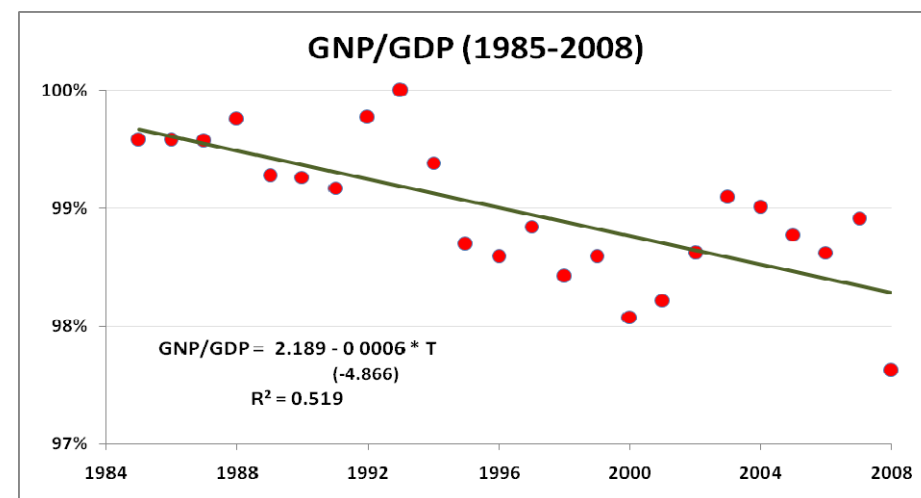
When the contracts for railway track construction are granted to foreign companies, a greater proportion of value generated in construction would be accrued outside the national economy. Such investment would only be initiating one of the two possible economic growth effects, namely the “asset creation effect”. It would fail to initiate construction demand-related

multipliers, thus, depriving the economy and its stake-holders a significant portion of growth potential of capital expenditure incurred. The sub-optimality would be more if the cost of construction by foreign sources becomes much greater than the local estimates.

4.2 Execution of projects and the impact on GNP

The Gross National Product (GNP) differs from the commonly used Gross Domestic Product (GDP) by the amount of net factor income from abroad. Factor incomes earned and repatriated by non-national economic agents operating on Sri Lankan soil are excluded from the GDP, and the factor incomes earned by Sri Lankan entities operating abroad and remitted to Sri Lanka are added, in order to compute GNP. Therefore, the evolution of GNP as a ratio of GDP could reflect as to how favourable or adverse the trend of Sri Lanka’s net factor income flow has been.

Figure 2 : Evolution of GNP in Relation to GDP



Source : Computed based on statistics published by the Central Bank of Sri Lanka

The GNP/GDP ratio of the Sri Lankan economy, worked out in current market prices, displays a significant downward trend over the past 25 years. This indicates a growing net repatriation of factor returns as a ratio of GDP. In other words, the inflow of factor earnings from abroad is increasingly becoming insufficient to compensate for the outflows.

This observation is relevant for our discussion because much of this may be largely “investment centred”. Higher the foreign capital borrowed for domestic capital formation, and more the contracts for road, railroad, port or airport construction in Sri Lanka are undertaken by foreign enterprises, greater would be the outflows of factor returns on account of interest, wages and profits. This would lead to deterioration of GNP/GDP ratio unless the inflow of factor returns does not grow at a sufficiently high rate to compensate for the growth of outward remittances.

There exists a notable difference between Foreign Direct Investment and public sector infrastructure investment executed through foreign contractors. In the case of FDI, the company would source capital, bears investment risks, becomes responsible all factor payments, and takes away only a portion of what it would generate as domestic value added. The Government becomes the investor in the case of the latter, and responsible for making outbound interest payments on foreign borrowed capital, irrespective of the project’s viability. The Government would also bear the risk of generating value added on the investment made, but pay in full to the foreign contractor for the project execution. Foreign lenders and foreign contractors would wish to maximise deployment of material, labour and technology of their country of origin. Thus, the possibility of such undertakings withdraw almost everything they generate as value through their activities, and leave hardly anything for the local economy other than the asset created, cannot be excluded.

Making contractual opportunities for project execution available for local entrepreneurship wherever possible, feasible and capital efficient, therefore, will help reduce the foreign dependence in investment, prevent shrinkage of GNP as against GDP, and enhance domestic capacity building and resource employment. Foreign enterprises should be employed to execute public investment contracts only when such involvement becomes essential and

unavoidable²². When employed, the policy makers should be smart enough to secure maximum possible returns to the local economy by way of strategically managing such foreign loan packages and projects.

Transport sector, including Highways, Ports and Aviation, has made commitments on capital expenditure of nearly USD 6 Bn on infrastructure development through foreign borrowings during the past six years. This trend is likely to continue. Therefore, the transport sector bears a considerable responsibility to strategically meeting this challenge by making available the investment opportunities arising out of development needs to the local enterprises and organisations with priority and to the maximum possible extent, for the betterment of our national economy.

5.0 Conclusions

In summary, the preceding discussion has emphasised the importance of maintaining productivity of capital at high levels, if Sri Lankan economy is to successfully grow at accelerated rates without significant sectoral and macro-economic hick-ups. Capital productivity, or in other words, reducing ICOR will be of prime importance to sustain high growth rates. While making every possible effort to reduce under-utilisation and to further improve productivity in the existing capital stock through better management of projects and efficient transport operations, care is necessary to ensure capital efficiency of new investments. Less capital intensive transport modes, such as public bus and railway²³, should be promoted.

Preventing the possibility of over-expenditure in investment should be assigned policy priority, and a transparent process of bench-mark comparison should be

²² Capital constraints and unavailability of technology could make foreign borrowings and entrepreneurial involvement in execution not only unavoidable, but also beneficial.

²³ Approximately 5 km of high-speed new dual-track railway could be constructed with Rs 1245 Mn per km of capital spent on Katunayake expressway.

used to prevent such possibilities in awarding all large scale State sector contracts in the field of transport, whenever competitive bidding becomes impractical for whatever reason.

It is also of importance that such investment be strategically planned so that both capital accumulation and effective demand creation effects of investment are maximally exploited. While it may not be practical to carry out all investments through budgetary financing, there could be opportunities to organise local financing consortia to provide backing to local enterprises in view of undertaking the contracts locally. Possibilities may also exist to obtain sub-contracts to local companies so that at least a certain percentage of capital invested would be ploughed back to the local economy, or to encourage, by loan agreements, formation of joint-ventures with local companies and/or State enterprises to undertake the projects. Establishment of an infrastructure development fund, from which local construction companies could source their capital at competitive rates, could enable them bid for transport infrastructure related projects, thus paving the way for maximum retention of profits generated through the execution of such projects.

Such effort will not only help transport sector continuing to support economic development process, but also becoming a “growth puller”. It is time that transportation in Sri Lanka step beyond being a mere service provider for other sectors to grow, but grow in to the age of being an industrial cluster of itself, internalising all peripheral activities on which the Sri Lankan national economy has not hitherto been able to optimally benefit of value generation. Only then could the effective demand creation by transport services be accrued to the local economy, in return providing a boost to the local enterprises with more business as well as opportunities to grow and, one fine day, to bid for transportation-related contracts off-shore !

That would be when the transport sector could strongly and sustainably drive our economy forward.