

**A REPORT ON**  
**SUSTAINABILITY OF SRI LANKA RAILWAY**  
**Formerly CEYLON GOVERNMENT RAILWAY**

by  
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**Submitted to**  
**Union of International Railways - Innovation Awards.**

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## INTRODUCTION

The first train in Ceylon was run on 27th December 1864, and thus Sri Lanka Railway celebrates 150 years in December 2014. In this sesquicentennial year of Sri Lankan Railway, much hope is alive in sustainable development of rail in the future as described in the foregoing.

Having served the Railway Department for 39 years, since retirement, I have directed my mind, energy & savings to a research on “ The Sustainability of Sri Lanka Railways ”. Permanent Way or the Rail Track being my forte the outcome of my research is given below. This subject is highly relevant to the management as well as the society; to all those who patronize the Railway. I enjoy writing with sufficient data in my possession, with the level of evidence available in the strongest form, never to be challenged by anyone. I only sought assistance from The Survey Department of Sri Lanka, in G.I.S. activity, in formulating this thesis. I have solely relied on emphatical facts and never used any kind of fiction that every reader would prefer to accept: but still there remains room for augment of morals. I welcome comments, suggestions and proposals.

All international Railways had diverted it selves for sustainability of their Railways in view of the global issues of Climate Changes, Green House Gas Emissions, Depletion of the Ozone Layer, Millenium Development Goals (MDG’s)etc. The 7th MDG requires – to ensure environmental sustainability. In addition to which the Earth Summit held in Rio de Janeiro in 1992; Kyoto Protocol held in 1997 in Japan; the treaties and discussions that followed in Buenos Aires, Argentina in 1998; Bonn in Germany in 1999 and 2001; at the Hague in Netherlands in 2000; Marrakech, Morocco in 2001; New Delhi, India 2002; Milan, Italy 2003; again in Argentina in 2004; Montreal, Canada in 2005; Nairobi, Kenya in 2006; Bali, Indonesia in 2007; Poznan, Poland 2008; Copenhagen, Denmark 2009; and so on until in France in December 2014. Union of International Railways (U.I.C.) too had sent messages to “Keep Kyoto on Track”. A UIC message sent a few years back read:

“ Rail is the backbone of high capacity sustainable transport systems for both passenger and freight services. We need to see brave politicians investing in long term transport solutions, especially in the developing world.”

“ The rail sector itself is continuously working on becoming more and more efficient and we now have the tools to help the politicians to make right decisions.”

Margrethe Sagevik – UIC Senior Advisor – Sustainable Development.

To begin with this narration on Ceylon Railway and to elaborate on its details, I wish to draw up a plot diagram based on technicalities of “Gauge selection”; “Route selection”; “Steep Gradients ”; & “ Laying of uncompensated sharp Curves ” capitalizing on the “Sessional Papers of the Legislative Council during the period 1858 - 1925” and the rest of the “Rule Books” that which came in to force, all that which leads us to a chain of controversial events and the outcome; that which had gone unnoticed for a long period of time in the PAST; and as a result, an enormous change that’s needed at PRESENT, that we Sri Lankans’ could proudly achieve, through Joint Venture Partnerships for betterment of the FUTURE of Sri Lanka Railways, with rectification, amelioration, rehabilitation, upgrading, resuscitation as in the case of the Highways in Sri Lanka during the recent past .

Unfortunately the above mentioned issues of the routes, the gauge, the gradients and the curves – these facts that may have reached the attention of the local railway authorities / and how these parameters act on a counter-productive measure to the growth of the Rail Industry had evaded all these years; when sufficient grounds for objecting and changes to the principle of this generally flexible and adaptable measures were available.

It is a well-known fact and the history confirms that four to five decades ago such changes were affected by the Railways in South Africa and in New Zealand too.

Failure of the pioneers to set Specifications at levels to sustain the rail development in Ceylon as performed in UK had never reached condemnation. As a matter of fact, it seems not to have come to lime light for the last 150 years; and be generally censored, blamed or disapproved than appreciated; as to how much these existing system work to the disadvantage of our country.

As an example I intend to deal with the 1st line of Railways to Kandy and extension beyond to Badulla. To end the misery that afflicted Colombo – Kandy - Badulla rail passengers, which had slipped into oblivions since 1924; the unpleasantness in travelling inside a night mail train for 12 long hours to cover a distance of 290 Kms,(average speed 24 Kmph = 15 Mph) ; we have to start on a positive change immediately – aimed at offering a better service. Similarly, all other lines and the new proposals at various stages: planned, in pipe line, feasibility study stages, funding being negotiated, on hand, or nearing completion needs to be addressed.

The present Government is gradually shifting over from Highway development to Railway development and in the course of activity the Coast Line was rehabilitated (even though not up to the level it could have been attained leaving room for further development); relaying work of the Northern Line and the Talai-mannar line is progressing; extension of the Matara line initially to Kataragama and then to the rest of the UVA Province neglected for 1 ½ centuries has commenced; new Carriages and Diesel Multiple Units were added to the depleting fleet, with more to come; arrangements have been made and being followed up for improved Signal and Telecommunications; Level Crossing protection and Electrification.

A Feasibility Study (FS) was conducted during March – October 2013, 9 months ago for a double tracked Heavy Haul and a Passenger rail connection from Hambantota new International Harbour to the Mattala Rajapakse International Airport. Design standards have been enhanced to cater for a heavy haul railway with Double Stacked containers, as in developed countries with an Internal Container Depot (ICD) in the vicinity. Designs include increased Axle Loads; substantial ballast cushioning; U.I.C. 60 standard heavier rails with fastenings to suit; bridges and Viaducts with slab tracks; devoid of steep gradients and sharp curves; a triangle to accommodate a Multi modal station at Hambantota; another triangle with a Multi Modal station at Andarawewa, to link up with Matara – Kataragama extension so that direct links becomes possibility in all directions; and in addition to all above, recommendations were given for rail transport of Aviation Fuel from Hambantota Sea Port to the Fuel Farm at Mattala Airport, along with the transport of all other types of Fuel and lubricants to the rest of the country from Hambantota.

As per the FS reports conducted by the Sri Lanka Port Authority (SLPA) and Aviation Authority of Sri Lanka (AASL) it is envisaged to clear 300,000 p.a. domestic containers arriving in the island through Hambantota ( this arrangement reduces the Road congestion in Colombo and the

congestion in the Port of Colombo) to the ICD at Andarawewa, before being despatched to the rest of the island and also to handle local exports from the island along with the empties. As such, the quantum of incoming and outgoing containers amounts to 1920+ a day (for a 26 day month): 80 containers an hour: in addition to Air Cargo and the aviation fuel at Airport; which is an impossibility by Highways alone. Hence, Double stacking containers and transport by rail is proposed. I served as a member of the F.S Team, as the Permanent Way Engineer along with former senior Rail Professionals.

Design standards are being upgraded in new constructions, (the change) to suit modern day track parameters and geometry.

Sri Lankan Government which owns and manages the railway through the Ministry of Transport and the Sri Lanka Railway Department- where I served – in the very near future will be compelled to flatten some of the steep gradients, and ease-off sharp curves (as in New Zealand and South Africa), which the pioneers could not avoid due to economic reasons in investment. However they did so at the expense of Speed. The time has now come and it is internationally accepted that the Railway is more economical than all other modes of transport, and the increase in Speed and Capacity cannot be delayed further. This could be attended to locally, (land acquisition / realigning curves and grades) through an annual programme and completed within five (5) years if the investments permit.

We must engage in motivation so that others will be supportive; execute our ability and enhance commitment so that others will follow, and believe in ourselves so that we could achieve the “CHANGE”. Once a beginner or an amateur becomes an expert or a professional consultant – that’s a major change; aspire to achieve it, dream big and start the change.

Presentation of this report seeks to emphasize, excite, energize, stimulate and intensify public interest in SPEED RAIL by bringing to life the vast economic and life style benefits of SAVING ENERGY and TRAVEL TIME through the Rail Network in Sri Lanka.

My intention is to propagate the idea; as the story runs, not only to “TO ALL WHOM IT MAY CONCERN”, from politicians, academics, engineers, administrators, transport accountants, planners, but also to the “SCHOOL CHILDREN AND RAIL TRAVELLERS AT GRASSROOT LEVEL”.



Pannipitiya. 25th July 2014.

Ranjith L. Dissanayake.

## DEDICATED TO EX-RAILWAYMEN

WHO LOST THEIR LIVES WHILST IN SERVICE IN THE C.G.R / S.L.R. DURING 1964 – 2003.

All Inspectors of Permanent Way; Buildings, Signal & Telecommunications, Mechanical, Motive Power & Electrical, Engineers of Civil (Permanent Way, Buildings, Signal & Telecommunications), Mechanical, Motive Power & Electrical, Transportation Department and all grades of other employees in the Engineering departments.



( Courtesy Vernon Potger/ Victor Melder.)

A novel and a life saving way that could be locally produced, to prevent Rail – Road accidents at Level Crossings (LC) due to wreckless road vehicle drivers: using a motor operated barrier at road level outside the railway reservation, along with bell & lights & horizontal plastic barrier at eye level. Road Development Authority or the Local Authority to bear the cost of these level crossing protections at LC's constructed subsequent to the laying of railways.

In Sri Lanka many people tempt their fate in trying to out beat the train and are either injured or killed at Level Crossings at grade. Please avoid knocking yourself or your vehicle against a train engine that's 90 Tons in weight. – Author.