

**REVIEW OF THE ROAD SECTOR INVESTMENTS IN THE
LAST DECADE: ITS ECONOMIC IMPACT AND
SUSTAINABILITY**

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DECLARATION

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ABSTRACT

The Sri Lankan government allocates a significant amount of its yearly capital expenditure toward road infrastructure projects. Since the end of the war terror in 2009, the Road Development Authority (RDA) has invested around 6% of the government's total construction budget for road projects. A significant proportion of financial resources voted for Provincial Councils, and nearly one-third of what RDA obtains has been committed to road infrastructure expansion.

When assessing the economic feasibility of a particular road section, a threshold Project Impact Rate of Return, EIRR (Economic Internal Rate of Return), of 9%-12% is typically used. Given the country's GDP (Gross Domestic Rate), this would be a substantial amount of money for a developing country like Sri Lanka. So, determining how effectively capital funds are provided in contrast with the benefit utilization is critical for a sustainable economy. Moreover, the per capita expenditure under transport administrative overheads is drastically high in the country, creating an unsustainable expenditure for the government of Sri Lanka with a fragmented setup in road construction. This study shows whether these road investments have effectively materialized in the last decade toward the country's sustainable economic growth.

The data collection for the study was done through primary and secondary data collections mainly focusing on RDA, PRDA, and rural road projects. In the methodological approach, the performance of road sector investments over the previous decade was analyzed with an emphasis on how money was transferred for road network construction. Identification of how total investments were aggregated across multiple state agencies in Sri Lanka was carried out along with a multi-year benefit calculation in comparison with VOT (Value of Time), VOC (Saving on Vehicle Operating Cost), and Accident Cost Saving. Funding patterns and scenarios were established while investment distribution by province, road class, and geographic locations was considered to compare the GDP growth rate of each province and subsequently to identify growth potentials in respective areas. The calculation was done considering the total expenditures where all these projects would have been feasible under a Minimum EIRR of 9-12%. The study determined whether these projects could provide the expected benefits for the country and if it is reflected in the natural GDP Growth rate. The Macro-Economic approach of the Harrod-Domar (HD) Model of Economic Growth and Development Theory was applied to this concern.

Descriptive statistics were carried out in the context of project EIRRs, financial investments, NPV, road length, and road class wise, and subsequently, several relationships were developed. The findings revealed that predicted benefits in the road sector over the previous decade have been overstated since the underlying assumption of estimated economic benefits, that would convert into economically productive activities and economic growth has not been properly materialized. The research findings are beneficial in prioritizing which road investments with adequate growth potentials are yielding the highest return. Correspondingly, for understanding how budget allocations could be done for the next 5-10 years so that there would be a better return on investment, and diversifying road sector investments to yield the maximum benefits for Sri Lanka. Additionally, the findings are advantageous to ensure whether there is a better balance between infrastructures and sectors that will contribute to the overall economic development of a particular area.

Keywords: *Road Sector Investments, Benefit Utilization, Growth Potentials, Budget Materialization, Sustainable Economy*

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LIST OF ABBREVIATIONS

- ACP -African, Caribbean, and Pacific
- ADB- Asia Development Bank
- AHP- Analytical Hierarchy Process
- BCR- Benefit Cost Ratio
- BOO- Build-Own-Operate
- BOT- Build-Operate-Transfer
- CBA- Cost-Benefit Analysis
- CF- Conversion Factor
- CO- County Offices
- DBFOT- Design-Build-Finance-Operate-Transfer
- DCF- Discounted Cash Flow
- EIRR- Economic Internal Rate of Return
- FHWA- Federal Highway Administration
- FYRR- First-Year Rate of Return
- GDP- Gross Domestic Product
- GIS- Global Information System
- HERS- Highway Economic Requirements System
- IHEEM- Highway Economic Evaluation Model
- INDOT- Indiana Department of Transportation
- IRR - Internal Rate of Return
- IV- Investment Value (IV)
- LCCA- Life-Cycle Cost Analysis
- LCCA- Life-Cycle Cost Analysis
- MCA- Multi-Criteria Assessment
- MIRR- Modified Internal Rate of Return
- MO- Main Office
- MOF- Ministry of Finance
- MV- Market Value
- NIF- National Investment Fund
- NPV-Net Present Value
- NRDB- Norwegian National Road Database
- NTP- National Transport Plan
- PA- Project Analysis
- PI -Project's Investment
- PP -Production Possibility
- PPP- Public-Private Partnerships
- PRA -Public Roads Administration

PRDA- Provincial Road Development Authority
RDA- Road Development Authority
RMSM- Revised Minimum Standard Model
RMTF- Road Maintenance Trust Fund
SCF- Social Cost Factor
SLRAMS -Sri Lanka Road Asset Management System
SR- Slovak Republic
SWRF- Shadow Wage Rate Factor
VAT -Value-Added Tax
VOC- Saving on Vehicle Operating Cost
VOT-Value of Time
VFM- Value for Money

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