

Road Maintenance Forum

Wednesday 5th October 2022

Road Maintenance Reflections: Policies Before Roads

Mike Pinard



Infra Africa Consultants
Gaborone, Botswana

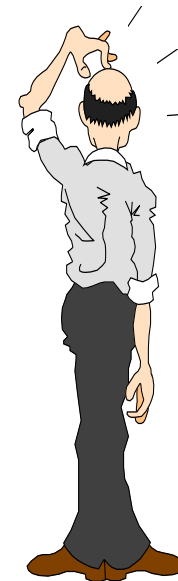
Outline of Presentation



- Maintenance of Road Infrastructure – The Stark Facts
- Key Lessons Learnt
- The Road Preservation Pyramid
- Building Blocks of Road Preservation
- Summary

Road Maintenance - The Stark Facts

- Despite the overwhelming evidence that road maintenance makes good economic sense, and that the returns on the investment are substantial, far higher than new construction, most countries in Africa are still plagued by very poor road conditions.
- The issue of poor maintenance and its adverse impact on national economies has been discussed *ad nauseam* for the more than 50 years, yet we seem to have made little progress in solving this challenge
- **Why does maintenance remain an unresolved enigma?**

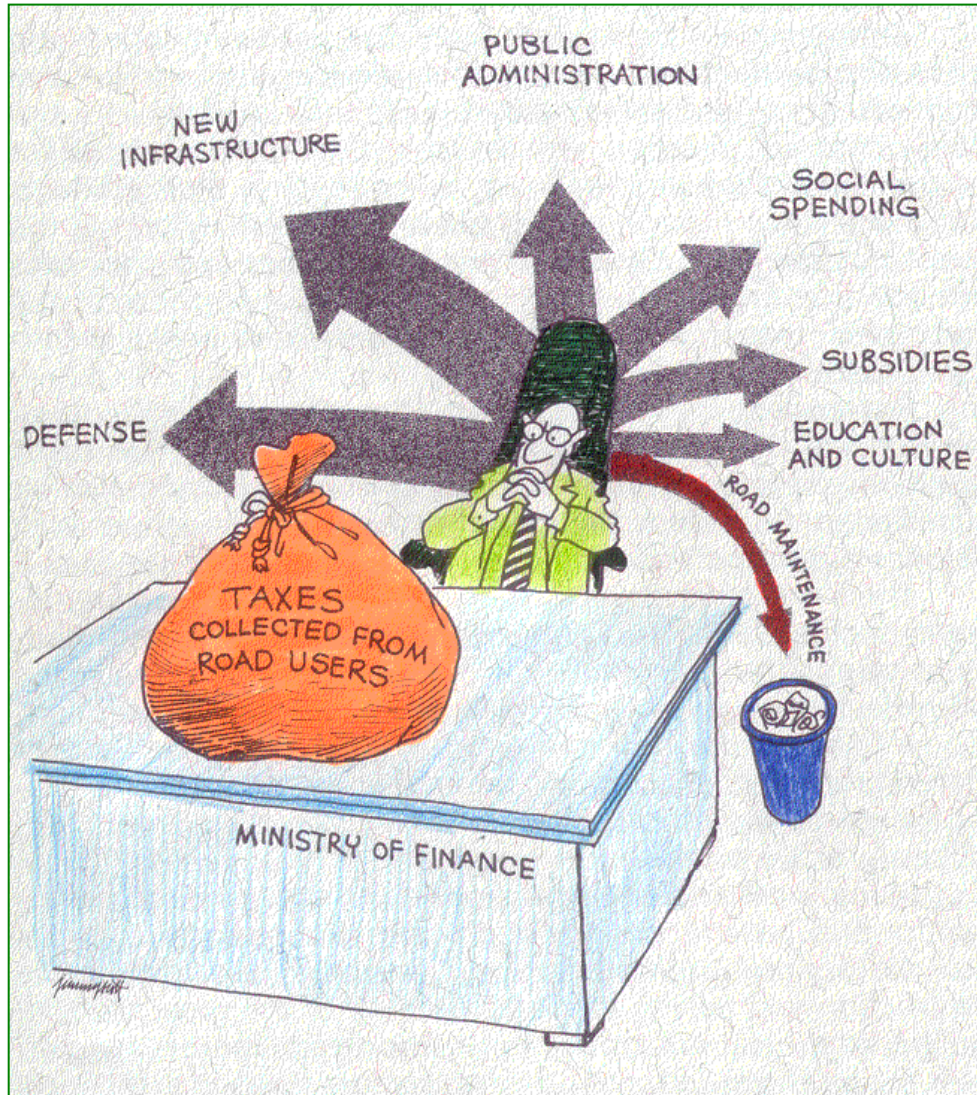


Enigma – something that is difficult to understand and solve, perplexing, conundrum, paradox

Roads: Easier to Construct than to Maintain!

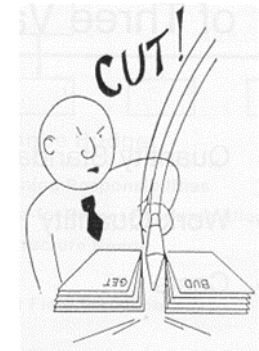


Historic Insufficiency of Funding for Road Maintenance



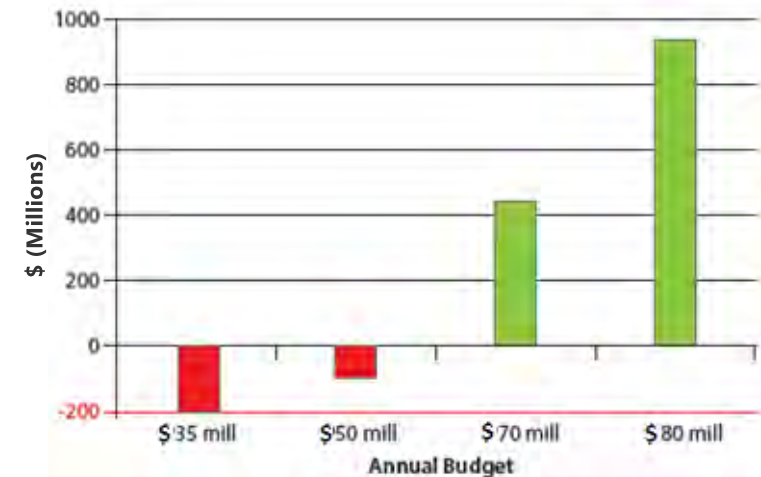
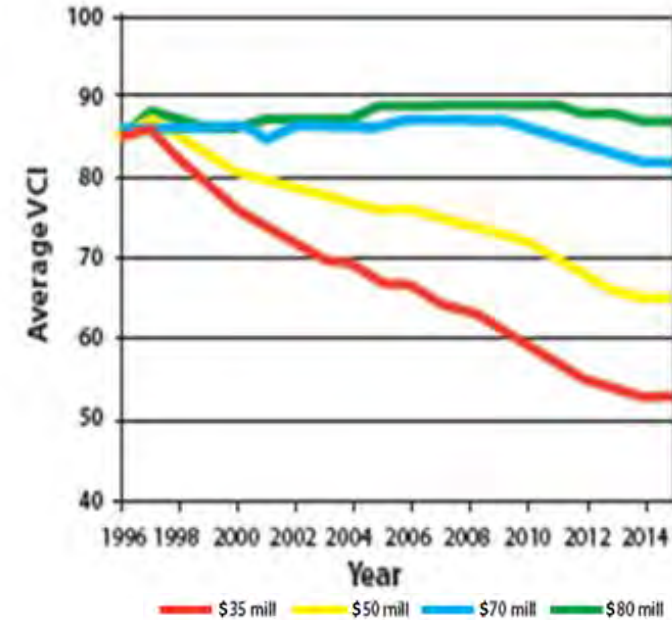
Beleaguered Minister of Finance

- Largely through budgetary allocations
- Relies on general taxes and duties
- Influenced by political decisions
- Maintenance often over-looked in favour of capital projects and other political priorities
- Funding for maintenance invariably insufficient
- NOT a viable option in the long term



The Message is Clear

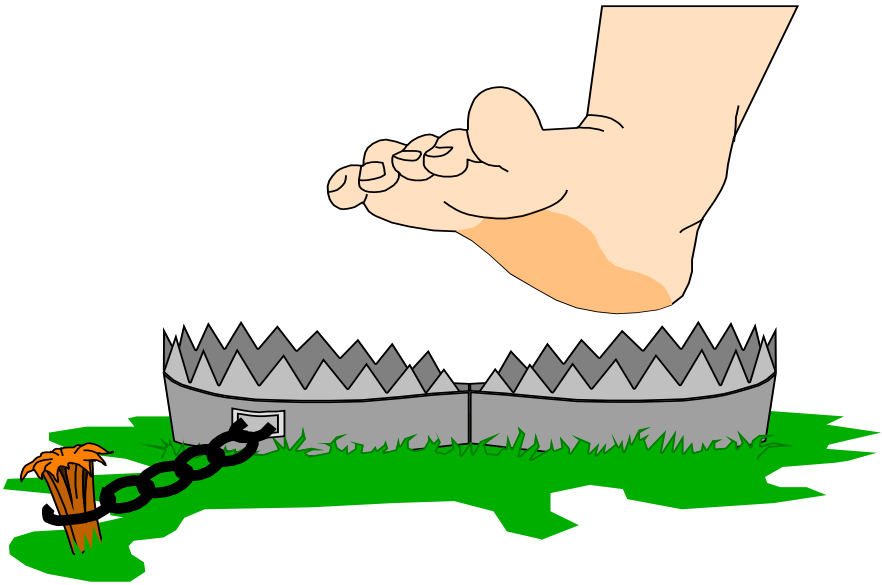
- ❯ Traditional methods of preserving investments made in road provision in Africa have generally not been successful.
- ❯ Such approaches are not sustainable with the asset value decreasing significantly each year due to underfunding of maintenance.
- ❯ Urgent need to reform the manner in which road infrastructure is preserved in through adoption of new, more sustainable approaches.



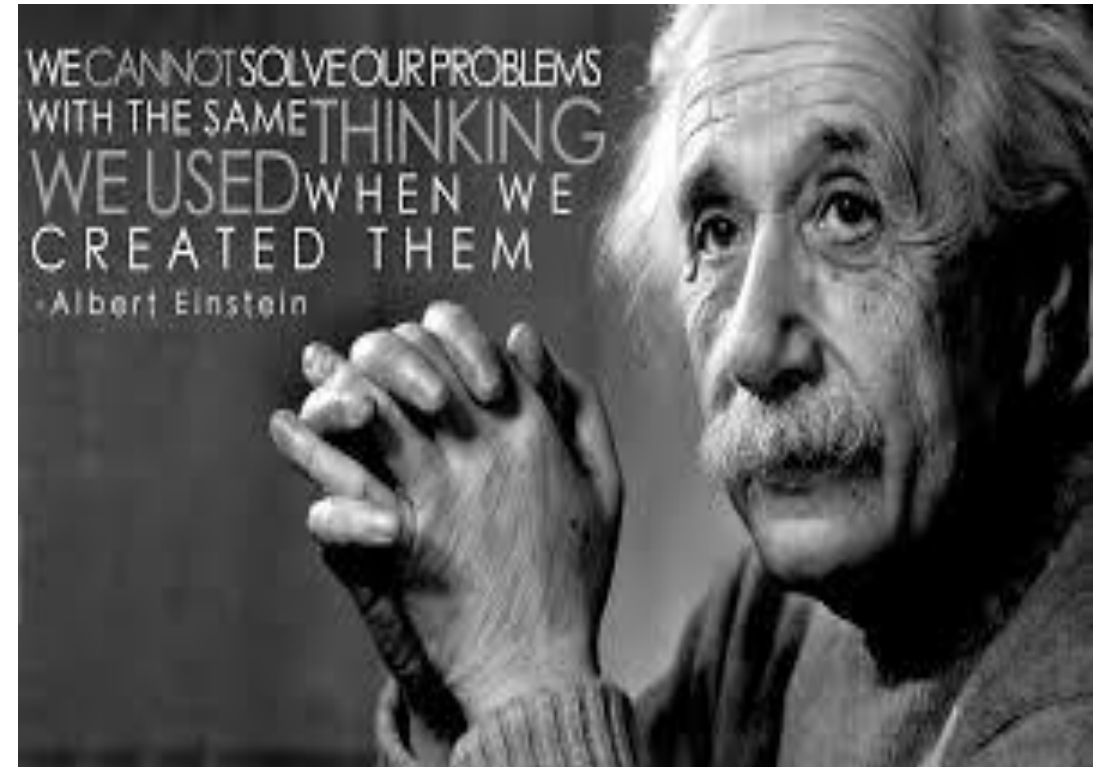
Key Lessons Learnt

- There is a prevailing tendency to view the maintenance challenge in a uni-dimensional, technically focused manner **without addressing the core problem. However.....**
- The maintenance challenge is a **multi-dimensional one**. It is rooted in a number of inter-related factors – legal, regulatory, institutional, financial, planning/ management, technical and operational - that **all** need to be addressed in a holistic and hierarchically prioritised manner with sound government policy and political support for maintenance being the foundation for success.
- Until the external, institutional and financial aspects of maintenance are adequately addressed, it is extremely difficult to achieve sustainable road preservation by focusing mostly on the technical and operational aspects.

Need for a New Approaches



Traditional approaches to road asset preservation have not worked, yet we continue to persevere with them.



Need for a paradigm shift in thinking

The Road Preservation Pyramid

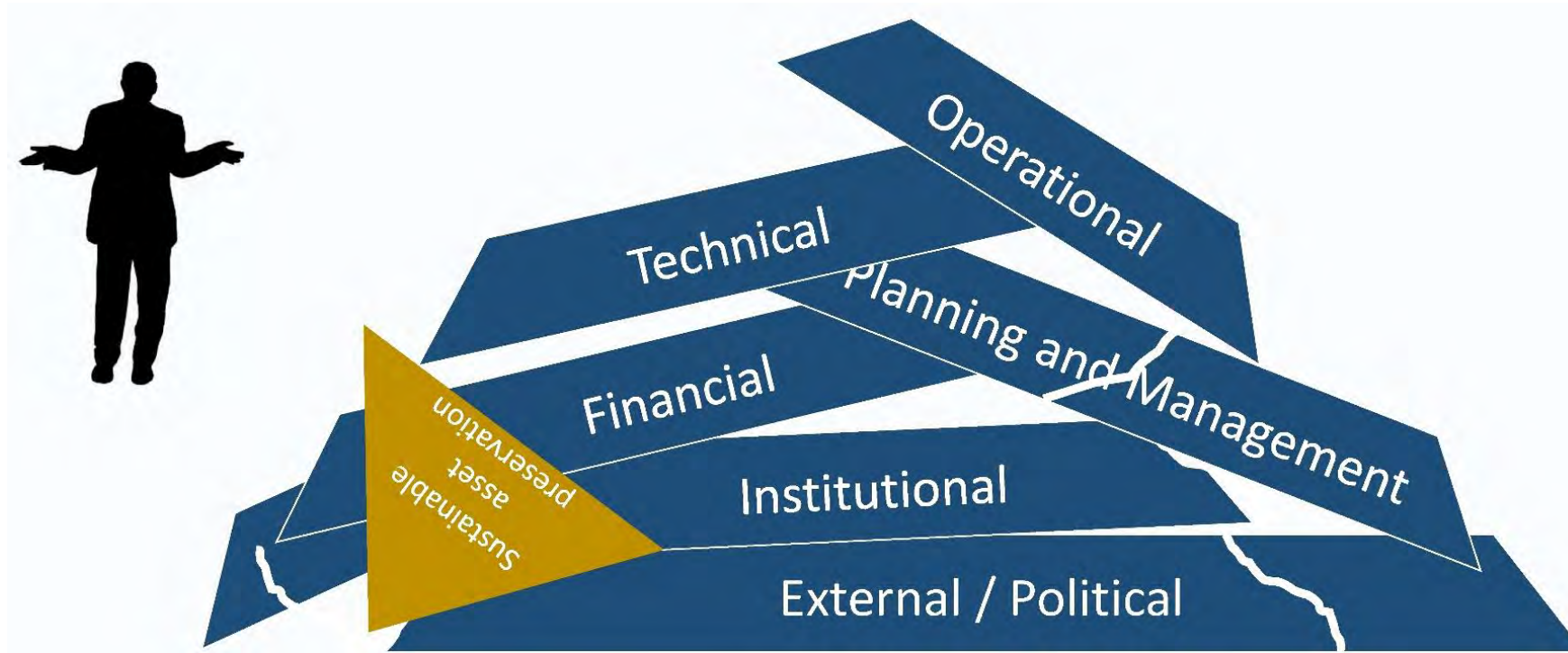


Engendering a holistic approach to the preservation of road infrastructure by addressing six building blocks (BBs) supporting the goal of sustainable road asset preservation.

(Source: M.I.Pinard. ***Preserve Your Country's Roads to Drive Development***. World Road Association (PIARC) Publication Ref. 2016R07EN, 2016).

Result of a Dis-jointed Approach to Road Asset Preservation

Worsening road conditions



Weak building blocks will cause the pyramid to collapse.

External/Political Building Block

Issues, conclusions and Recommendations

- The language and process of dialogue needs to be changed so that all stakeholders are fully sensitised to the relationship between sustainable road conservation and economic growth and development.
- A stark message needs to be conveyed to political decision makers – **there is a strong linkage between a depreciating road asset due to inadequate maintenance funding, higher transport costs and constrained economic growth and development.**
- Government must rebalance capital and recurrent budgets to give priority to preventative maintenance which is the most cost-effective means of managing infrastructure assets.

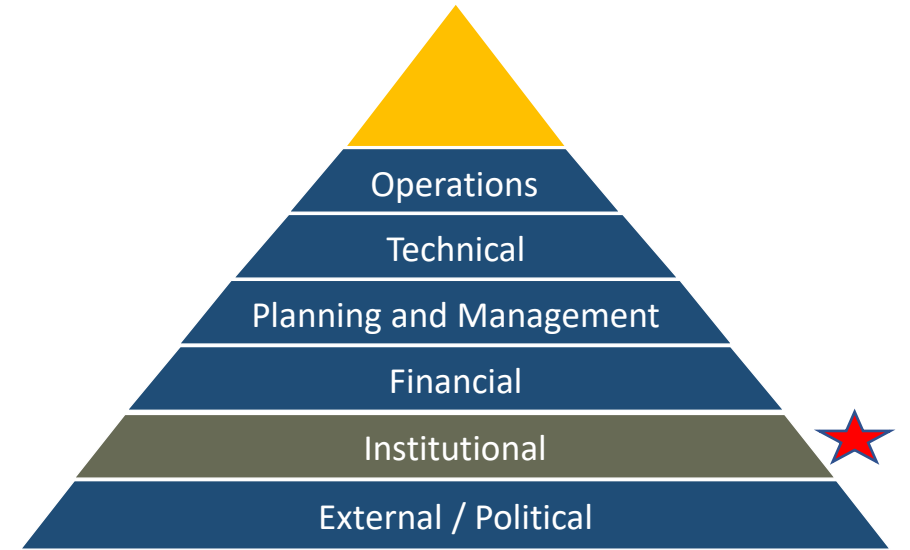


- Need to adopt legislation that requires ministries responsible for infrastructure to minimize the “total costs of ownership” via adopting whole-life approaches, leading to optimum balance between capital and recurrent budgets.
- When commissioning new or replacement infrastructure, there must be a simultaneous commitment to fund the required annual maintenance costs at the project design and approval stages.

Institutional Building Block

key issues, conclusions and recommendations

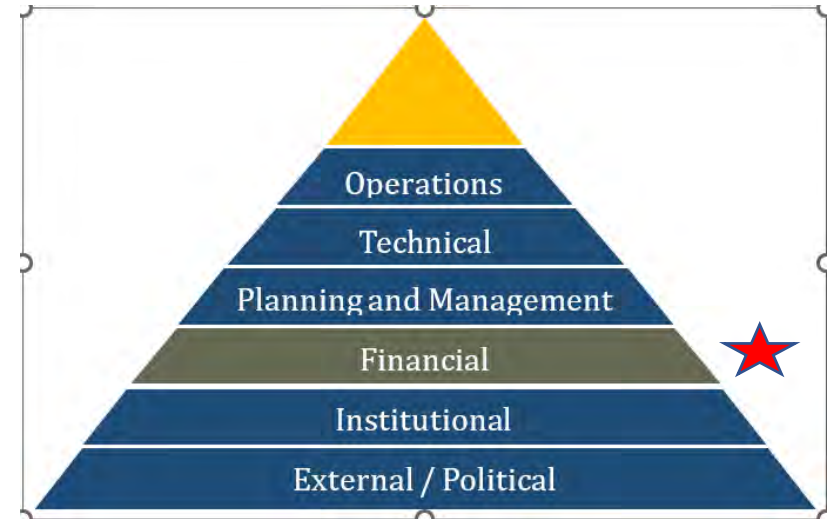
- Need for commercially-driven, adequately capacitated institutions with trained personnel to effectively manage and maintain the road asset.



Financial Building Block

Issues, Conclusions and Recommendations

- The state budget is generally NOT a viable option in the long term.
- Need for an adequate, sustainable source of funding using a variety of revenue generating systems.
- A target of 2 – 2.5% of the replacement value of the road asset should be allocated annually to preserve the investments made in road infrastructure



Planning and Management Building Block

Key issues, conclusions, recommendations

- Need for managerial efficiency and effectiveness based on the use of systems that are appropriate to local conditions, relatively simple and easy to use and implemented gradually.
- Roads agencies need to be equipped and personnel trained to use appropriate tools to manage the maintenance of the road network in an efficient and effective manner.



Roads Economic Decision Model

Technical Building Block

Key issues, conclusions, recommendations

- Need for adopting appropriate standards of maintenance commensurate with traffic loading and other influential factors.



Operations Building Block

Key issues, conclusions, recommendations

- Encourage use of performance-based contracting for the management and maintenance of road networks
- Expanding the role of the private sector from the simple execution of works to the management and conservation of road assets.
- Carrying out technical and financial auditing of works



Concluding Summary

- There is clear evidence that the root cause of worsening road conditions in many countries is inadequate maintenance, not because of a lack of technical know-how but because of inappropriate policies, insufficient institutional capacity and inadequate funding.
- As a matter of policy, priority must be given to maintenance through irrevocable commitments for its financing at the same time as commitments are made to investing in new infrastructure.
- Thus, we need to **BUILD POLICIES BEFORE ROADS** as, otherwise, we will continue to face the enigma of poor roads and increased transport costs despite our excellent technical knowledge of how to maintain them.

Concluding Summary



- The Road Preservation Pyramid provides a useful concept for addressing road maintenance in a holistic and sustainable manner.
- All six building blocks of the Road Preservation Pyramid must be addressed in a prioritised manner in order to achieve sustainable preservation of road assets in Africa

Thank you!

Enquiries:

E-mail: mike@mipinard.com

Tel: +267 71311629