



THE IMPACT OF CAPACITY CONSTRAINTS ON DELIVERY OF ROAD INFRASTRUCTURE

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- Background
- Impact of capacity challenges: Illustrative cases
- Reflective observation
- Concluding Remarks

Background

Expected results of infrastructure development Projects:

- **Output:** a road for example
- **Outcome:** basic functional operation of the road enables governments to provide better accessibility
- **Impact:** shortened travel time for motorists and the movement of goods which contributes to overall socioeconomic development

Background

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Affected by
technical skills base

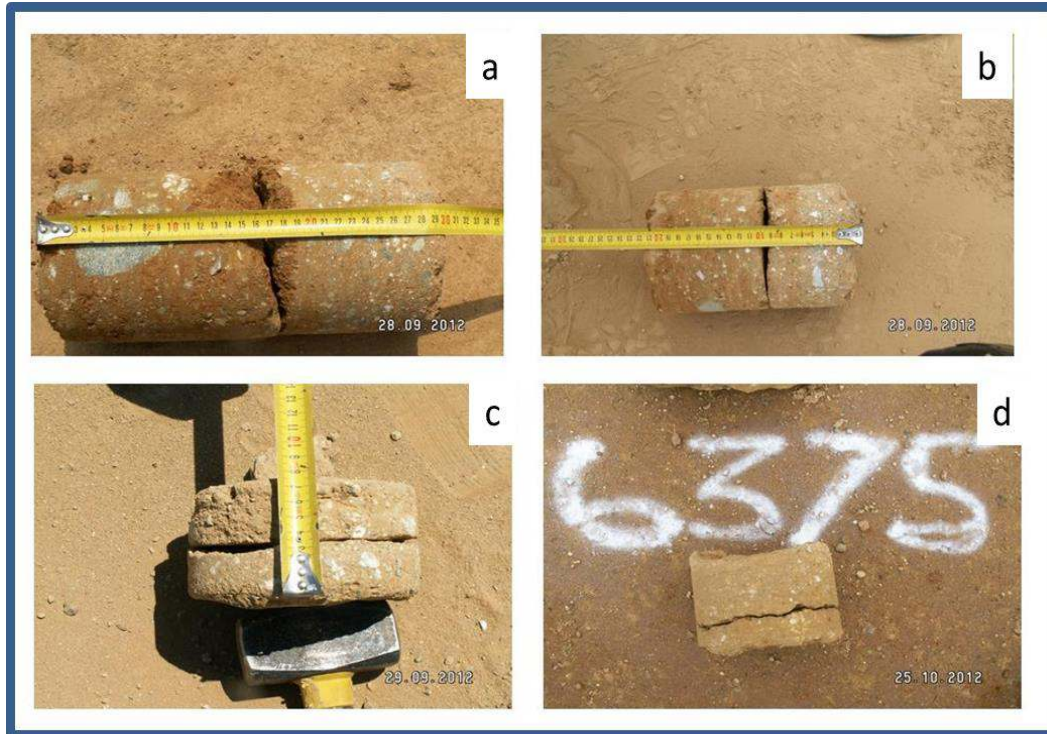
Impact of capacity challenges

Premature pavement failure: Case 1



Impact of capacity challenges

Premature pavement failure: Case 2



Reflective Observation

- A lack of controlled focused approach to manage the project contract processes and therefore ensure that project design requirements were being met.
- Technical management team did not take an active role in the development of the technical documents to ensure that they were consistent with standards and specification
- The required skills, knowledge base, responsibility, not clearly identified to match them with the project management requirements

Reflective Observation

- Lack of thorough monitoring of the works during the project process
 - Independent validation of the test results
- Lack of appropriate testing of materials and correct interpretation of results
- Limited testing and insufficient data interpretation

Reflective Observation: Analysis

- Ability to provide a solution to the problems based on an informed decision making process was lacking
- Ill equipped to assess the competence of the professional service provider.
- Inadequate professional engineering input at design, and during construction phases of the projects
- Inappropriate use of design standards specifications

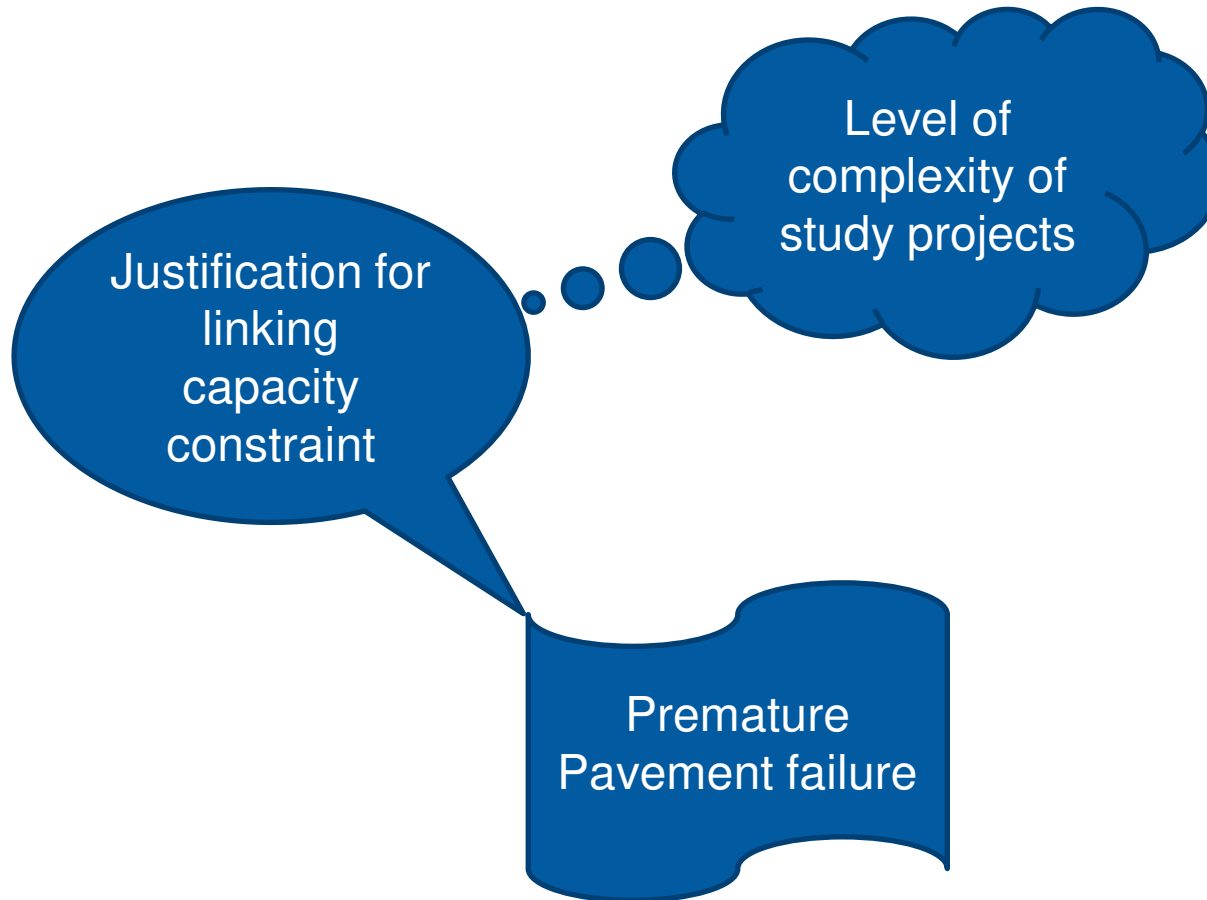
Reflective Observation: Analysis

- Inappropriate use of design standards specifications

Material quality requirement

Item	Project Specification	COTO (1998) and TRH14 (1985)
Plasticity Index (PI)	12	< 10
CBR (%)	±25 to 45 at 97% mod AASHTO	> 45 % at 95 % mod AASHTO
Grading Modulus (GM)	1.2	1.5 to 2.5

Reflective Observation: Analysis



Concluding Remarks

- The shortage of civil engineering skills and capacity within the public sector has been recognised for some time and suggestions for interventions have been made (example studies date back to 2005)

Consequences

- Poor quality infrastructure delivery
- Premature failure of pavement in this case
- The necessity of repairing the road pavement at an earlier date results in additional expense to the fiscus.
- Community not provided with the expected benefits of new infrastructure

Concluding Remarks

Paradigm shift required

- Identifying and prioritizing the skills development
- Implementation of mechanism for skills planning
- Continuing professional development critical
- Culture of competency through skills development with provision of budget certainty for capacity building