

The background features a large, light blue graphic of a globe with curved lines. At the top, there are three vertical rectangular panels: the first and third are blue with white curved lines, and the middle one is green with white curved lines. A horizontal light blue bar is positioned at the bottom of the page.

Reality Check – The Identification of Sustainability Perception & Deliverables for Australian Road Infrastructure Projects

by

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1. Introduction
2. Australian Road Infrastructure Scenario
3. Stakeholders in Road Infrastructure Projects
4. CRC-CI & QUT Research - Preliminary Findings
5. Conclusion

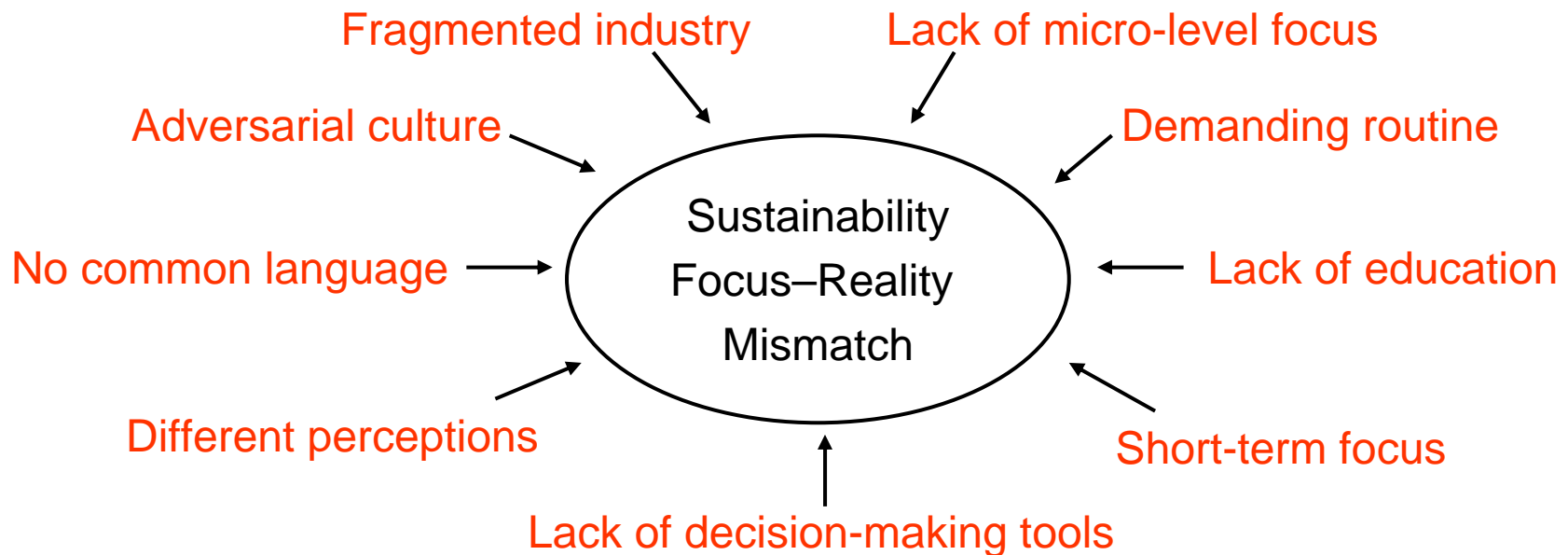


Introduction

- Road infrastructure industry - backbone of a nation's economy.
- Essential for daily living, social as well businesses.
- Continued development is crucial.
- Serious implications to local economy as well environment.
- Economically feasible, socially viable and environmentally responsible road project outcomes.
- Need to respond to sustainability challenge, especially for new projects.

Introduction

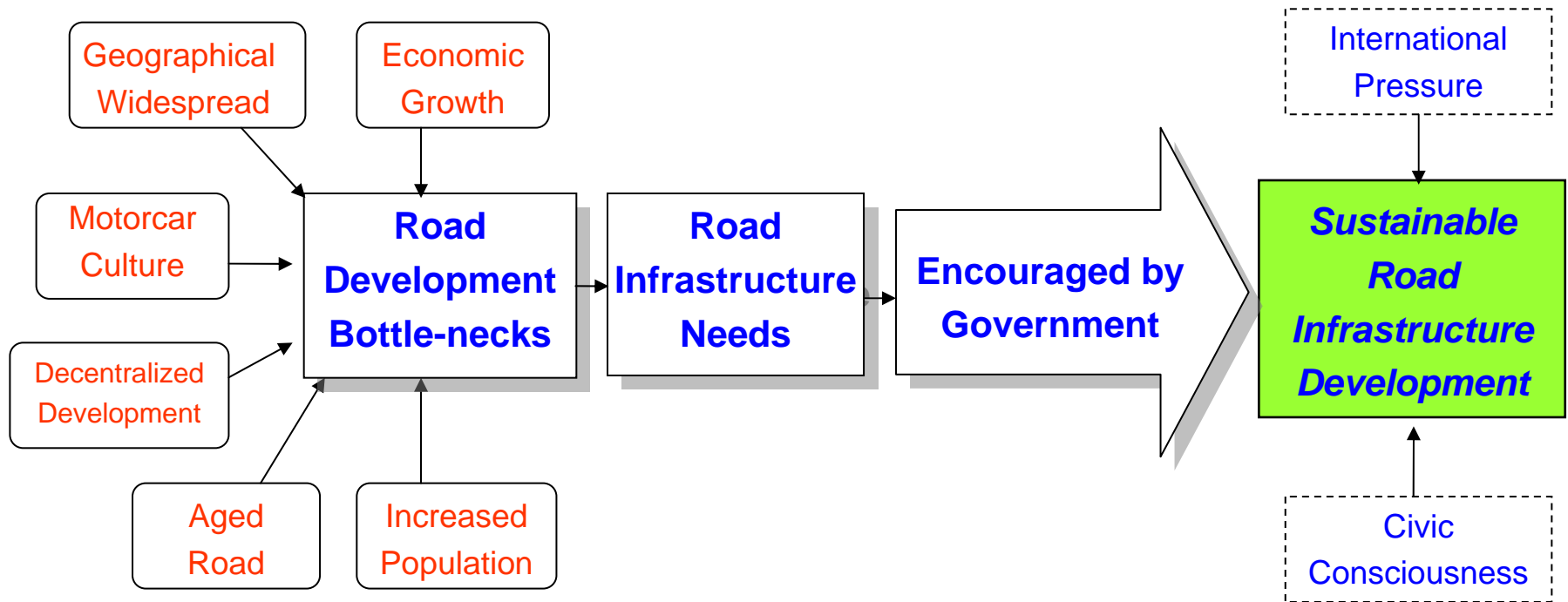
- Despite increased highlight of sustainability agenda, the actual deliverables from the industry are not substantially tangible.



- Achieving infrastructure sustainability - a formidable task.

Aus. Road Infra. Scenario

- Despite the effort, the demand is constantly on the rise. The is being fuelled by:



Aus. Road Infras. Scenario



- Following these demands, disturbances to human life and the ecosystem can be resulted.
- Therefore enhancement of sustainability in road projects is crucial to minimize impacts to environ., social and cultural aspects of the community; and achieve economic outcomes.
- **Integrating sustainability principles in road infra. development by respective stakeholders – the only way forward.**



Stakeholders



- Road infra. dev. is complex – large scale, huge resources etc.
- Necessarily involves multiple parties called ‘Stakeholders’.
- They can be categorised into (El-Gohany et al., 2006):

Responsible Stakeholders: Clients, project managers, engineers, designers, town planners, builders and suppliers.

Impacted Stakeholders: Residents, users, owners, local and regional community and cultural heritage.

Interested Stakeholders: Social institutions, environmentalists, researcher, economists, media etc.



Stakeholders



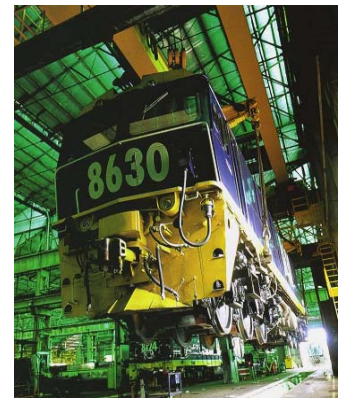
- Different stakeholders have different levels and types of investment and interest in construction project (Newcombe, 2003).
- Important to mesh project objectives with stakeholders'.
- Failure to do so is potentially jeopardizing.
- Successful completion is dependent on meeting the expectations of stakeholders.
- In this case: To achieve road infra. sustain., understanding their varying perceptions and needs and integrating them into design and delivery of road projects become crucial.



CRC-CI & QUT Research



- To identify and integrate the different perceptions and priority needs of the stakeholders;
- along with identifying key issues that impact on the gap between sustainability foci and its actual deliverables at project end levels.
- Focus on the practicality and real-world implementation of sustainability agenda in infrastructure projects delivery.
- Based on the common understanding by various stakeholders, with individual view points shared, understood and mutual benefits supported.
- A set of guidelines to promote integrated decision-making for implementing sustainability strategies and enhancing deliverables in road infrastructure project processes.



CRC-CI & QUT Research



- Employs face-to-face interviews, Delphi study and case studies to collect expert opinions.
- Interviewed 20 targeted senior representatives:
 - ✓ Government
 - ✓ Designer
 - ✓ Financier/Bank
 - ✓ Project Manager
 - ✓ Environmentalist
 - ✓ Engineer
 - ✓ Community
 - ✓ Town Planner
 - ✓ Builder
 - ✓ Cultural Heritage



Preliminary Findings

1. GENERAL PERCEPTIONS ON SUSTAINABILITY:

- Awareness is generally high.
- Not certain on what constitutes sustainability.
- Pessimistic on the achievability of absolute sustainability.
- In principal, sustainability is an important agenda.
- The word 'sustainability' was described as broad word, buzz word, catchword, watchword, ambiguous, incorrect, out of context, panacea, elixir, over-used catch phrase, misused word, new badge or it simply sounds good.
- The popularity of the term does not guarantee its usefulness.
- Substantial discourse is imperative – agreed terms and definitions.



Preliminary Findings

1. GENERAL PERCEPTIONS ON SUSTAINABILITY:

A. *High Ideal (Ambiguous)*

- *Sustainability is about survival of human race.*
- *Sustainability is about inter-generational equity.*
- *Sustainability is about children and next generations.*
- *'We don't own the future, we inherit from our children.'*
- *Sustainability is about individual and community well-being.*
- *Sustainability is about improving the quality of life..... etc.*

Preliminary Findings

1. GENERAL PERCEPTIONS ON SUSTAINABILITY:

B. Semi-broad Ideal (Semi-ambiguous)

- *Sustainability is about carrying out project that satisfies as many people as possible.*
- *Sustainability is about balance among the Triple Bottom Line and all other aspects.*
- *Sustainability is about political and governance issues.*
- *Sustainability is about work-life balance.*
- *Sustainability is about any move that improves current state/condition.*
- *Sustainability is about fit for purpose, suitable and meet the need.... etc.*

Preliminary Findings

1. GENERAL PERCEPTIONS ON SUSTAINABILITY:

C. Project-level (Specific)

- *Sustainability is about high quality of infrastructure.*
- *Sustainability is about health and road safety.*
- *Sustainability is about improved access and equity of access.*
- *Sustainability is about environmentally clean and appealing project outcomes.*
- *Sustainability is about minimization of asset maintenance and LCC.*
- *Sustainability is about performance of asset.... etc.*



Preliminary Findings

2. STAKEHOLDERS' SUSTAINABILITY PRIORITIES:

INFRASTRUCTURE STAKEHOLDER	SUSTAINABILITY PRIORITY									
	Political & Institutional	Environment	Economic	Social	Cultural	Resource Utiliz. & Mgmt	Health and Safety	Project & Risk Mgmt	Public & Comm. Exp.	Engineering
Government	√	√	√	√	√		√		√	
Financier/Bank	√		√							
Environmentalist		√				√	√		√	
Community		√		√	√		√		√	
Contractor/Builder			√			√	√	√	√	√
Designer		√				√	√		√	√
Engineer			√			√	√	√		√
Project Manager		√				√	√	√		√
Town Planner	√	√	√	√	√		√		√	
Cultural Heritage				√	√				√	

Preliminary Findings



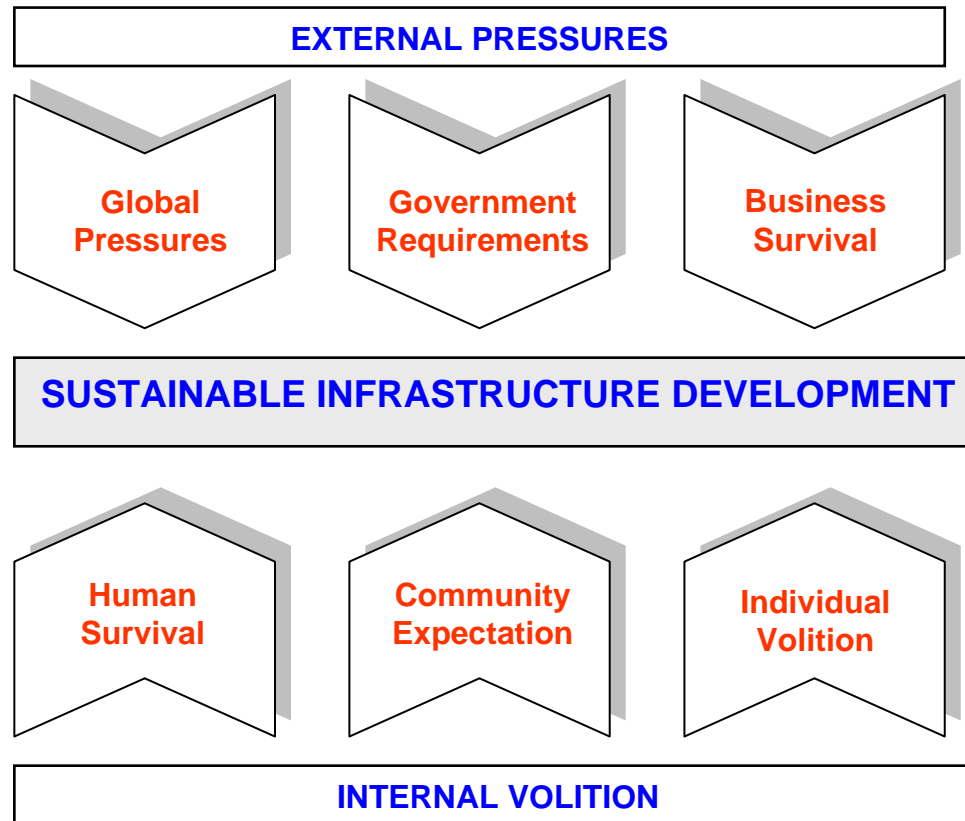
2. STAKEHOLDERS' SUSTAINABILITY PRIORITIES:

- Though TBL as the common start point, community expectation & governance, health & safety and risk management – distinctive priorities.
- As the complexity of public concerns increases, new elements are expected to be added into its equation – project to project basis.
- Paradigm shift from conventional sustainability mentality of minimizing environmental impacts to improving and off-setting as the start point.
- However, this is more costly and it depends on client whether to subscribe such forward-thinking measures.

(Engineers Australia, 2005)

Preliminary Findings

3. SUSTAINABILITY DRIVERS:



Involuntary yet not within control

Result of increased consciousness



Preliminary Findings



3. SUSTAINABILITY DRIVERS:

- Education – determining factor in between the two.
- External pressures have a more significant drive.
- Sustainability is addressed as a powerful market differentiator in winning bids and convincing the public.
- It's often discussed in the light of business.
- Business drive precedes voluntarism.
- To expedite the process, both types of driver are necessary to supplement each other.

(Engineers Australia, 2005)



Conclusion



1. Australian experiencing unprecedented demands esp. on roads & highways to sustain buoyant economy and general prosperity.
2. The incorporation of sustainability principles is crucial to ensure economic feasible, socially viable and environmental responsible project outcomes.
3. Thorough understanding and integrating different perceptions among road project stakeholders on sustainability is imperative.
4. A framework of integrated approaches to decision-making is necessary for practical implementation of sustainability strategies in road projects.
5. Upon completion, this research is expected to help facilitate collaboration, consultation among key decision-makers to improve consistencies of sustainability outcomes in road infrastructure projects.





ACKNOWLEDGEMENT

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