



UNIVERSITY OF
BIRMINGHAM



International Road Federation
Fédération Routière Internationale
Federación Internacional de Carreteras



UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI



THE UNIVERSITY OF
AUCKLAND
NEW ZEALAND



CRISPS



HIGH VOLUME
TRANSPORT
APPLIED RESEARCH



UKaid
from the British people

Introduction

Michael Burrow

University of Birmingham

Background

The HVT Part 1 research identified a number of pressing research areas in long distance road and rail transport, including:

“How could new ways of designing, and building roads using new standards and marginal materials deliver low maintenance resilient roads economically?”

The Partners



Schools of Engineering (Drs Burrow and Ghataora), Physics & Astronomy (Dr Carl Weldon), International Development Department (Ms. Zenobia Ismail)



Transportation Research Centre (Dr Theuns Henning)



Highway & Transportation Engineering (Prof. Ratnasamy Muniandy)



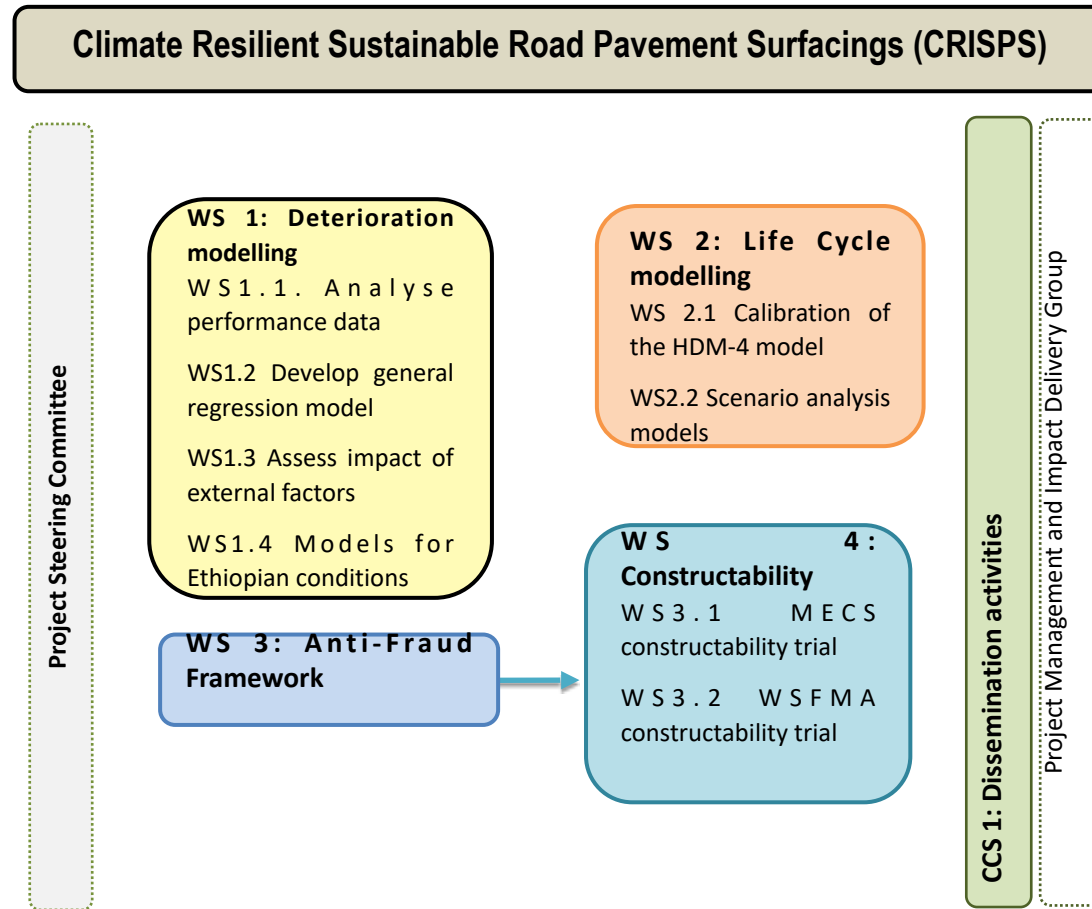
International Road Federation (Mrs Susanna Zamataro and Maylis Chollet)

Climate Resilient Sustainable Road Pavement Surfacing

18 month project will assess the suitability of three global best practice types of road surfacing:

- Road surface types for use in LICs to counter the impacts of climate change
- Modified Epoxy Chip Seals, (MECS), Modified Epoxy Asphalt Surfaces (MEAS) and Fibre Mastic Asphalt (FMA).
- The technologies are a result of many years of research in New Zealand and Malaysia.
- In situ performance has been demonstrated through trials and they are now routinely used in service.
- They have also shown significant life cycle cost savings.

Methodology



Innovation

- 1. Assessing the suitability of global best practice in the use of MECS, MEAS and FMA for their application in LICs.
- 2. The development of models of the behavior of the three technologies under the variety of current and future environmental (i.e., climate and subgrade/ base course) and traffic conditions found in HVT roads in LICs in Africa and S. Asia.
- 3. A scoping exercise to identify existing chip seals in LICs that are at risk and could benefit from MECS, MEAS or FMA and for new roads.
- 4. The development of life cycle models for the technologies, considering the effects of climate change, both for the construction of new roads and for resurfacing (overlay).
- 5. Scoping inexpensive anti-fraud in-situ testing methodologies for MEAS, MECS, based on neutron beam particle analysis.
- 6. Trialling innovative low-cost easy application methods for the three technologies.

Thank you