NPTG

National Pavements Technical Group

Working Smarter Together Delivers Best Practice in Pavements

Dr Bryan Pidwerbesky, Fulton Hogan

NPTG

National Pavements Technical Group

- **Who are we -** Industry Sector Group established 2008…evolved from the stabilisation working group

- **Purpose**
  - to identify …. and facilitate best practice for road pavement design, materials and construction activities in New Zealand.
  - Provide a formal industry gateway for NZTA documents and directives

- **Objectives**
  - That the wider industry, inclusive of contractors, clients and consultants is made aware of and is encouraged to use best practice for designing and constructing pavements.
  - That best practice methods are reviewed and revised as required, to enhance pavement performance, efficient use of materials and construction methodologies.

Current members

• David Alabaster	New Zealand Transport Agency
• Greg Arnold	Downer New Zealand
• Allen Browne	Hiway Group
• Mike Chilton	rep AQA
• Mark Cruden (Chair)	Independent Consultant
• Danny Wyatt	Winstone (rep. CETANZ)
• William Gray (Vice Chair)	Opus International Consultants
• John Hallett	BECA
• Ken Hudson	MWH (rep. IPENZ)
• Robert Patience	Higgins
• Ross Peploe	Bartley Consultants
• Bryan Pidwerbesky	Fulton Hogan
• Graham Salt	Geosolve
• Angela Parsonage	Auckland Transport (rep. IPWEA)
• Stacy Goldsworthy	CCNZ Rep

NPTG
National Pavements Technical Group

Major Activities to date

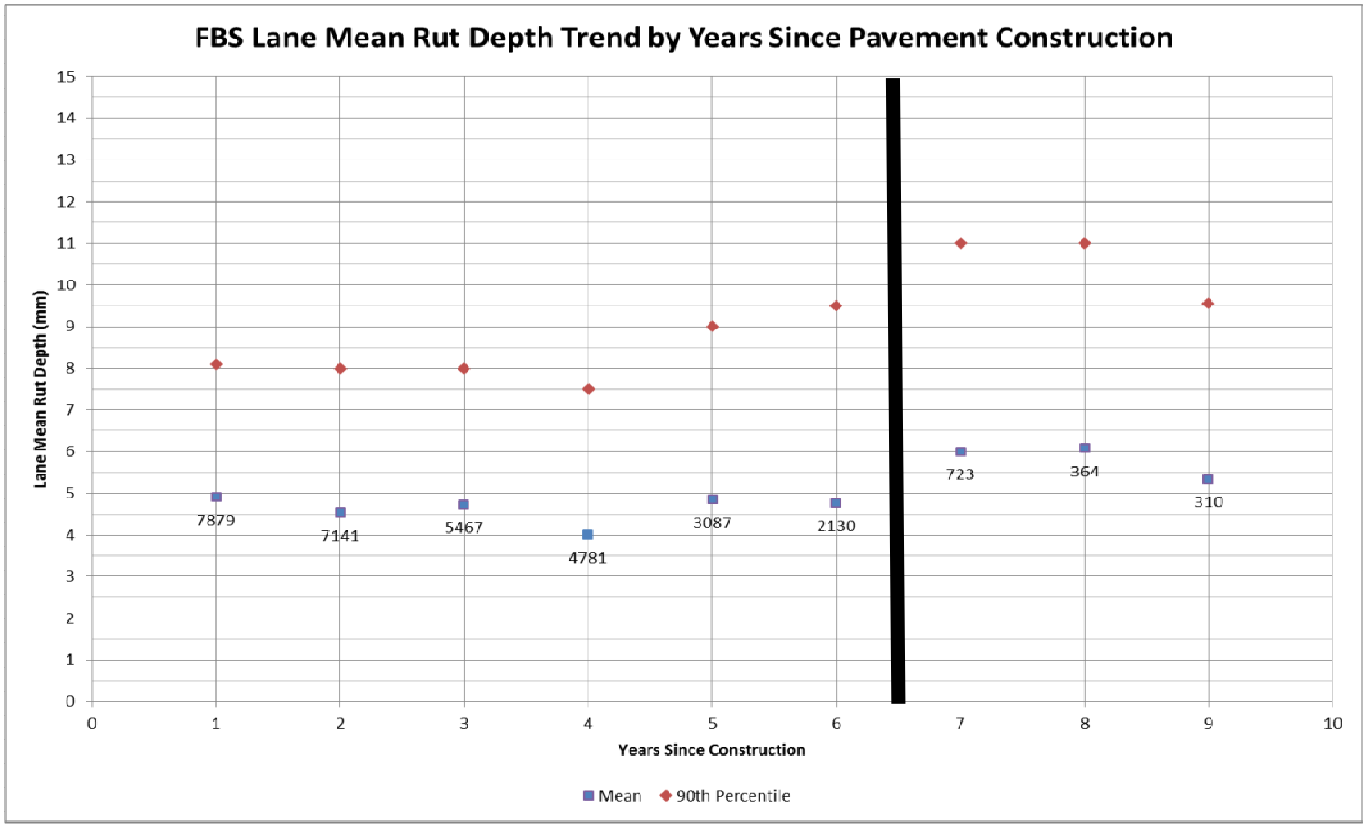
NPTG
National Pavements Technical Group

- Delivery of B series: B/5, 6, 7, 8, 9 (stabilisation and bound layers)
- Delivery of T/19 spec (Design & Indirect Tensile Strength Testing of Modified & Bound Pavement Materials)
- Delivery of updated F/1 (Earthworks)
- Input to “NZ Guide to Pavement Evaluation and Treatment Design”

Specifications for Modified & Bound Layers Produced In-Situ & In-Plant

Layer	Binders	In-Situ	In-Plant
Modified Basecourse & Sub-base	Cement Lime Foamed Bitumen Bitumen Emulsion	**NZTA B/5**	**NZTA B/7**
Bound Sub-Base	Cement Cement / Lime	**NZTA B/6**	**NZTA B/8**
Subgrade	Lime Cement	**NZTA B/9**	N/A

Effect of Stabilising Specifications on Performance



Strategic Plan 2018-2021

NPTG
National Pavements Technical Group

Where we are now

Designs don't challenge the status quo
Developing ability to predict performance
Poor knowledge transfer of success and failure
Inconsistent use of best practice
Diminshing aggregate resource

Where we want to be

Predictable performance
Timely intervention
Evidence-based pavement solutions
Tiered, risk-based approach
Sustainable resource use
Knowledgeable industry

How we'll get there

Share Existing Knowledge

Promote Recent specs & guidelines
Offer material "endorsed by NPTG", through NZTA NZIHT, UoA, UC, IPENZ channels
Social Media – RSS Feed / Blog / LinkedIn etc
Coordinated conference strategy (Comms plan) – spreadsheet control
Provide training tips for young players

Develop New Resources

National guide to intervention triggers and timing
Guide to Optimising Utilisation of Marginal Aggregates
Create technical process map for all tech docs
Evidence based pavement treatments
Guide to effective drainage systems
Develop new subbase guide
Implement patch repair research

Build Knowledge

Understand impact of frequency of loading
Understand constructability limitations
Understand shrinkage cracking
Understand and trial EME
More Trial sites – the ability to innovate
Active involvement in university under grad/post grad project topics

our BHAGS (Big Hairy and Audacious Goals)

NPTG
National Pavements Technical Group

Share Existing Knowledge

Develop New Resources

Build Knowledge

Share Existing Knowledge

- Deliver and implement communications plan
- NPTG members deliver 3 webinars per year through Engineering NZ focussing on current specs and guidelines
- Delivery by Engineering NZ of 1 NPTG endorsed course per year
- Delivery by NZIHT of 1 NPTG endorsed course per year
- Delivery by UC of 1 NPTG endorsed course per year
- Delivery by UoA of 1 NPTG endorsed course per year
- Coordinated conference attendance delivering 3 NPTG papers or workshops per year (CCNZ, CETANZ, NZTA/NZIHT conferences)
- Host a NPTG seminar

Develop New Resources

- Champion and ensure delivery of overall logic map for use of national specs
- Work with NZTA to create or update at least two guidelines per year
- Work with NZTA to deliver national guideline on use of marginal aggregates within 2 years

Build Knowledge

- At least three NPTG research topics get picked up and funded by NZTA within the next three years
- At least one NPTG promoted research project is delivered through CAPTIF every three years
- At least one NPTG promoted annual trial site constructed per annum
- At least two NPTG promoted UoA/UC under grad or post grad topics taken up by students per annum
- Active involvement in thesis topics

NPTG Work Plan – Build Knowledge

Project	Description
NZTA M/4 Review	New version will incorporate statistical acceptance criteria & accreditation of quarries
NZTA M/3 Review	Update spec to ensure appropriate aggregates being used for subbase materials
NZ Vibrating Hammer test variability	With NZTA - looking to develop a method of measuring the energy transmitted to the sample from the hammer
Pavement Deflection T/1 update	Draft completed

NPTG Work Plan – Develop New Resources

Project	Description
National Guide to intervention timing and triggers	
Active input into next rehab guide revision	compile feedback and recommend updates
Guide to effective drainage systems	“when to use & when not to use” 1 to 2 page guide to be drafted by WG
Create technical process map for all tech docs	TBC
NZTA B/2 Review	Basecourse construction
NZTA F/2 Review	AQA to be asked to quantify outstanding issues with F/2 (subsoil drains)

We're here for industry

NPTG
National Pavements Technical Group

- We want to hear about your challenges
- A conduit between industry and NZTA
- Contact NPTG Chair:

Mark Cruden mark@mcengineering.co.nz

or

Bryan.pidwerbesky@fultonhogan.com