Australian Asphalt Pavement Association

AAPA is the peak body representing all parts of the flexible pavement industry in Australia since 1969.

- AAPA focus
  - Technology and Leadership
  - Communications and Outreach
  - Training and Knowledge
  - Safety and Sustainability

AAPA memberships include bitumen suppliers, asphalt producers, sprayed surface operators and equipment suppliers all State Government Road Authorities and many Local Governments from across Australia.

Drivers of AAPA innovation

- AAPA Mission Statement
  - to effectively represent the interests of all members and to demonstrate technical excellence in the sustainable use of bitumen-based products in pavement engineering solutions

- AAPA Values
  - in all its activities and at all times AAPA and its members will act with professionalism, honesty and integrity

- Value for Money Solutions

Initiatives Delivering Value Solutions

- Asphalt Pavement Solutions – for Life
- EME Technology Transfer
- Warm Mix Asphalt Validation
- Recycled Asphalt Pavement (RAP)
- Harmonisation across State boundaries
- International Knowledge Transfer 2014
- National Safety Workshop Series; November 2014
- AAPA International Conference on Flexible Pavements 13 -16 September 2015; Gold Coast

Genesis of APS-fL Project Perpetual Pavements

- TRL research for UK Highway Auth. in early 90’s
- Deflections often decreasing
- International recognition Long Life Asphalt Pavements exist
- Poor correlation between how and when damage occurs and design models
- Austroads Design Guides producing overly conservative designs compared to rest of the world

The Project Objective

- The objectives of the Asphalt Pavement Solutions – for Life Project are to:-
  - Improve and accelerate the effective deployment of Long Life Asphalt Pavement structures into Australian highway construction practice,
  - Fatigue Endurance Limit validated and accepted
  - Deliver the associated sustainable benefits to the Australian community
Project Delivery
- Early engagement Austroads, ARRB and SRA
- International & National Peer Review through Master Classes and Conferences 2011, 2013
- National Mix Characterisation database
- Correlation with NCAT (transportability of Australian to US Data)
- Laboratory to Field Conversion
- Design Master Curves
- Development, calibration and validation of Fatigue Endurance Limit (FEL) model

Grading Results – AC20

Empirical calibration - NCAT

Design Example
150mm Working Platform, 210mm Select Fill on Subgrade CBR 5
- Austroads
  - 355mm (Mel)
  - 390mm (Bris)
- Austroads with UK Fatigue Endur Lmt
  - 325mm (Mel)
  - 365mm (Bris)
- Australian Pavement Solutions-for Life
  - 260mm (Mel)
  - 265mm (Bris)

Enrobés à Module Elevé (EME2)
High modulus asphalt
- High modulus asphalt for heavy duty use
- It is workable, stiff, resistant to rutting, fatigue and moisture. Why?
- Because of high binder content, hard binder, low air voids, performance related design method

Reasons for EME use
- Reduced pavement thickness vs DGA
- Strengthen existing pavements without changing levels
- Productivity gains by laying deeper lifts
- Last longer without structural maintenance
- Savings in raw materials
- Value for Money Solution!
AAPA bringing EME to Australia

- EME a target topic on 2011 & 2012 AAPA overseas Study Tours
- 2013 Master Classes on Premium Asphalt Bases
- Binder & Asphalt suppliers committed
- International participation in design fundan
- ARRB staff with expertise & experience
- Austroads support and endorsement

Warm Mix Asphalt

- Improved working conditions
- Less fumes and emissions
- Less energy consumption
- Reduced binder aging
- Early site opening
- Cool weather paving
- Aids compaction & ride
- Longer storage
- Longer haul distances
- Validation with all SRA’s aligned

Recycled Asphalt Pavement (RAP)

- 1st goal is Recycling of RAP for same function as in the original application or adding the reclaimed asphalt to new asphalt mixes – our usual case in Australia
- Asphalt is the most recycled product in USA

WMA and RAP

- Provides a pavement of equal performance to HMA (AAPA - Austroads WMA Validation trial 2010)
- Promotes sustainability
- Increasingly used together in the future

Harmonisation

- Heavy duty asphalt specification NSW & Qld
- Further work with MRWA and Roads ACT
- National asphalt specifications – The Goal
- Significant saving
- Value adding

2014 AAPA National Workshop Series November