



5. Embark on a program to link the field and laboratory engineering related performance data through the use of up-to-date test equipment.

General Issues (binders, sprayed sealing, surface friction)

Tour objectives

Finding answers to questions raised in Australia from seals to new ideas.

Tour recommendations

1. Partnerships should be formed between NCAT and Australian industry to share in their research and technology developments.
2. Consideration should be given to assessing how improved performance parameters can be included in the Australian binder specifications.

3. Increase awareness on the importance of tack and trackless tack coats

Summary

The short 7 to 21 August 2010 study tour provided the 15 participants with an opportunity to directly address relevant Australian issues and to provide a joint feedback on the status in the USA on key topics of significant relevance to Australia.

Apart from the contacts made in the USA, the participants have established good working relationships which will benefit the roads sector into the future.

The recommendations provide a path for the roads industry to move forward gaining benefit from the knowledge and understanding developed during the study tour

AAPA 2010 Study Tour to the USA

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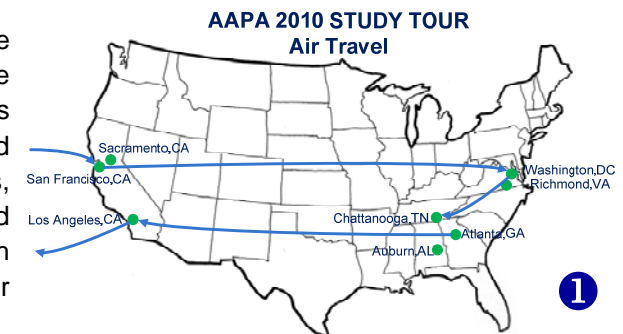
A short intensive study tour in August 2010 stopped off in California, Washington DC & Virginia, Tennessee, North and South Carolina and Alabama. State Departments of Transport, FHWA, Universities on California, Alabama, road construction equipment companies and contractors all provided the their experiences and updates on the tour four themes.

- **Warm Mix Asphalt**
- **RAP**
- **Perpetual Pavement Concepts**
- **Accelerated Pavement Testing & Test Equipment**

This Newsletter highlights the recommendations as suggested actions, the full report can be downloaded from the Strategic Alliance website.

Study Tours in the past

Over the last 40 years the AAPA & the SRA's have undertaken study tours across the world to learn and reported back on new ideas, directions of research and technology changes which may have implications or advantages for Australia.



Feedback Sessions

Five feedback sessions were held in the Australia state capitals where the tour participants gave feedback on the themes. The comprehensive report is

available on CD and contains 170 hyperlinked references to articles, presentation and papers received on the study tour.



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Various Warm Mix Asphalt Technologies available



Warm Mix Asphalt

Tour objective

Investigate the implementation, design & field assessment and the various additives used in WMA manufacture.

Tour Recommendations

1. WMA implementation be pursued for Australia
2. Check WMA for TSR and follow USA treatment of this parameter
3. Acknowledge and confirm lab mix provides lower results in some lab tests
4. Acknowledge and confirm field performance of WMA meets HMA
5. Redesign for WMA is not required although some additional work is required to set asphalt sampling and conditioning in laboratories. Using USA information will minimize Australia's time and cost.

Recycled Asphalt Pavements RAP

Tour objective

Gaining a better understanding of higher % of RAP, use in WMA & in surface layers.

Tour recommendations

1. Promote the sustainability advantages in using RAP in all dense graded asphalt layers – surfacing and bases.
2. Propose usage guide for the inclusion of RAP <15%, 15 to 30% and >30% for different asphalts types in the various pavement layers.
3. Develop simplified procedure to evaluate actual RAP and binder properties when evaluating the inclusion of RAP above 30%.

Perpetual Pavement Concepts

Tour objective

Update on FEL, design applications with PP concepts, use of new test equipment & long term pavement performance data.

Tour recommendations

1. Australian flexible pavement design practice should investigate the opportunities for inclusion of Fatigue Endurance Limits into local practice.



3 *FHWA Turner-Fairbank Research Centre – the inspecting the APT site and two FHWA ALF's*

2. Contact should be maintained between our US colleagues to facilitate the above through industry, State Road Authority, academia, consultants, ARRB personnel and the Austroad Pavement Structures Reference Group.
3. Existing laboratory tools in Australia should be used to facilitate comparison of local products to allow comparison with USA materials proven on their major highways and accelerated test facilities.
4. A "library" of the performance Australian pavement materials should be developed to provide input into local predictive models.
5. AAPA should include, as part of its technology development program, the conversion of PP / Long life design packages to SI units and, through partnerships with SRA / ARRB / consulting fraternity, the modification of Australian design methods of tools such as CIRCLY.

Accelerated Pavement Testing and Equipment

Tour objective

Learn from the use of APT by FHWA, Caltrans, NCAT in modelling, design & new material evaluation.

Tour recommendations

1. Stronger relationship be established between Australia APT and the United States APT groups.
2. Materials should be tested by NCAT for Accelerated Pavement Testing to calibrate USA performance data to local pavements and environmental effects.
3. Expand accelerated pavement testing programs in Australia to better understand the performance of lighter pavement structures to accommodate higher performance & higher mass vehicles
4. Promote greater participation by industry by providing local benefits from APT in advanced materials development opportunities.