

2008 Reference Group Meeting

Timing & venue

Tuesday 7 October 2008
Ballymore Rugby Club, Herston

Key agenda items:

- New District stakeholder reps for bituminous materials
- Communications
- Skid Resistance update & alliance project
- Performance Based Specifications and Proprietary Product Trials.
- Status of Technical Specifications modification
- Reliability of testing & sampling
- Spray Seal Designers & Contractor Rego systems
- Traffic disruptions due to late opening of road works

Presentations and workshop summary will be available on CD

Strategic Alliance Reference Group Meeting PROGRAM

The AIM
The aim of this meeting is to listen and take feedback from those attending the Reference Group.
Also available will be updates on significant issues for road surfacing and flexible pavements.

Who should attend?
Anyone involved in managing, designing, purchasing or supplying asphalt or bitumen works, or related research, particularly Main Roads infrastructure delivery.

08:30am	Registration
09:00am	Chairman of morning commences meeting - housekeeping
09:05am	Chairman of Board - Welcome & Update
09:20am	Discussion - Improving Communication
09:30am	Performance Based / Thin Asphalt Proprietary - presentations
10:15am	Performance Based / Thin Asphalt Proprietary - panel
10:30am	Morning Tea Break
10:50am	Registration systems - Spray Seal Designers & Contractors
11:35am	Traffic disruption due to late opening of road works
11:55am	Test methods and reliability of results obtained
12:05pm	Workshop A - Rego Systems / Traffic Disruption / Testing
12:55pm	Wrap up of morning session
01:00pm	Lunch time
01:45pm	Chairman of afternoon commences meeting
01:50pm	Groups feedback & General Discussion
02:05pm	Update on bituminous product specification modification
02:25pm	Skid Resistance progress - update on the issue
02:45pm	Skid Resistance - Alliance Project
02:55pm	Workshop B - Skid resistance / Point of use data for PMBS
03:35pm	Groups feedback & General Discussion
03:50pm	Wrap-up afternoon session
04:00pm	Meeting closed

Strategic Alliance Board Member

Ken Beattie has accepted nomination as a Strategic Alliance Board member. Ken is the General Manager—Program Development and Delivery and will provide valued direction on the strategic role that the Alliance plays in getting the best outcome for Main Roads and industry in the task of providing safe and cost effective roads to the people of Queensland.



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Layout/Design by: Rob Vos

Available electronically on: <http://www.aapa.asn.au>
or Main Roads Intranet



Strategic Alliance
NEWS LETTER
Developing superior flexible pavements



Issue 1 of 2008

Safety & safe road surfaces *we should explain more!*

Main Roads staff took the opportunity early in 2008 to present the facts on the safety record of road surfacings to the press on the Sunshine Coast.

Their safety message was clear: *"The crash history does not indicate any correlation with surface type but is closely linked to the diminishing level of service offered by the road"*. These are the key issues.

The question of high accident rates and road surface quality resulted in a press campaign challenging the suitability of Stone Mastic Asphalt surfacing. The campaign focused on tragic fatalities on the Bruce Highway near Federal and at an off ramp near Sippy Downs.

Both sites received considerable attention resulting in very detailed investigation and comprehensive reporting to the public & press.

A number of lessons were learnt, not least of which was the need for explanation of engineering processes and decision making to address limited public understanding of the intricacies of road materials.

The growth in traffic caused by sustained population and economic growth in Queensland and the increasing requirement to upgrade roads combined with competition for funding priorities across governments will continue to push road safety onto the front pages of newspapers.

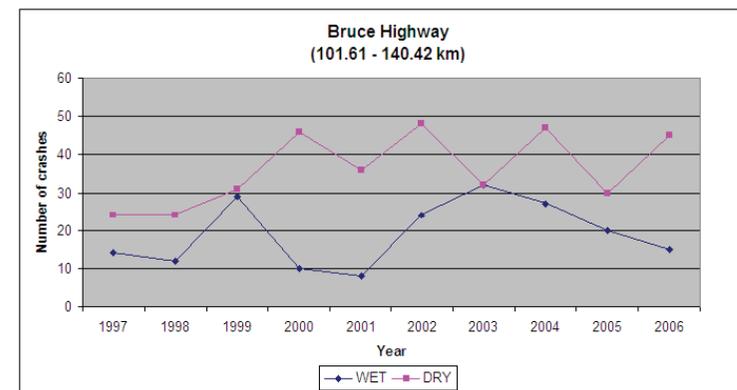


Fig 1: All Crashes: Cooroy to Gympie
Based on a linear trend line (1997—2006) both wet and dry crashes have increased rates. Since 2003 wet crashes are declining.

Are roads surfaces safer than drivers?

When selecting road surfaces the decision criteria include many sometimes conflicting requirements. The quietest surface is Open Graded Asphalt with very good splash and spray dispersal properties. But it does not last as long as dense graded asphalt, does not add to the structural strength of the pavement, and is removed at the end of its life.

Surfacing seals are an option but they can be noisy and do little to improve

the surface evenness or remove ruts. Stone Mastic Asphalt has some of the good properties of Open Graded and Dense Graded—it reduces noise and, with high texture, can reduce splash and spray. It does not have to be fully removed when overlaid and European experience demonstrates it lasts longer than Dense Graded Asphalt.

When it comes to road safety, SMA should be a winner, but road safety is

	SMA Surface Crashes (Fatalities)	Other Surfacing Crashes (Fatalities)	Total Crashes (Fatalities)
Head On	10 (13)	11 (17)	21 (30)
Run Off Road	2 (2)	3 (4)	5 (6)
Pedestrian	2 (2)	2 (2)	4 (4)
Rear End	1 (1)	1 (1)	2 (2)
Intersection	0 (0)	2 (3)	2 (3)
Totals	15 (18)	19 (27)	34 (45)
% of crashes	44%	56%	
% of surface type*	55.4%	44.6%	

Fig2: Fatal Crash Type by Road Surface Type
(since Jan 2000) Bruce Highway: Cooroy to Gympie

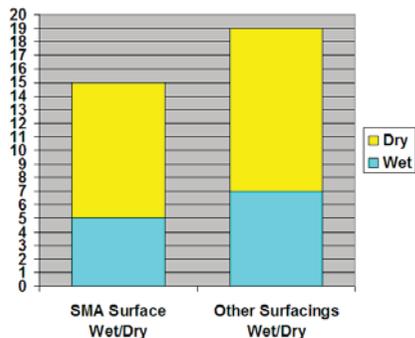
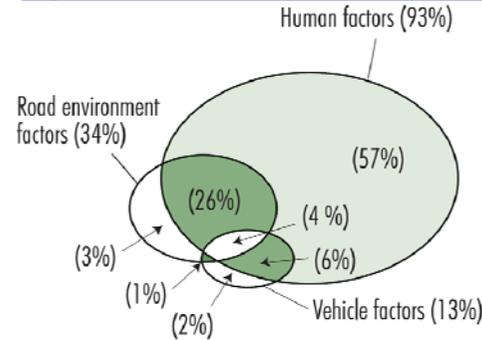


Fig3: Fatal Crashes in Wet & Dry by Road Surface Type

not just the road surface. The road profile, its geometrics, the speed limits and driver behaviour are all relevant.

Stone Mastic Asphalt was the surface attracting attention in the Sunshine Coast press in 2005 and again in 2007. Full in-depth and independent investigations were held which drew the following conclusions.

For the road infrastructure viewpoint at “Federal” the interplay of road surface geometrics rainfall, driver



Source: Treat et al., 1979

behaviour and drainage likely contributed whilst for Sippy Downs surface contamination was likely to have contributed.

The road surface itself had provided what could reasonably be expected as reflected in Figures 2 & 3. These findings have led to detailed reviews of the expectations of road surfaces, the change in skid resistance properties over time and the capability of the various surfaces to operate at increased speed limits.

But the responsibility for safe use of the road is shared and this must include the road user.

The Asset Manager’s responsibility requires some understanding of the likely road user behaviour as much as the application of agreed State and National road design standards. Road surfaces will never be uniform – over time they wear and deform, environmental conditions change - roads have to match the landform and weather conditions are variable.

Figure 4 highlights the overlapping crash factors showing the road surface as a primary contributor in only 3% of cases with human factors as primary in 57%. A key lesson is that the

Fig4: Crash Factors: Road, Road User & Vehicle
Detailed research (in the US and UK) concluded that the road is the primary contributor to only a small percentage of crashes (3%). The road environment does however play a more significant role in the outcome (26%).

greatest factor is the road user. There is a responsibility to understand the nature and consequences of variable driver behaviours and plan and design accordingly.

The road user needs to be appropriately informed via normal road signage and other road features of the likely driving conditions so that they drive appropriately during changed traffic, weather or seasonal conditions. The design should present no unexpected surprises, speed limits should “make sense” and should be enforced where safety is important. **“The underlying message is that crashes on this section of road are closely linked to the diminished level of service (volume/capacity ratio)”.**

The accident statistics in Figure 1 highlight the reducing number of accidents in the wet with no real reduction in the dry weather data.

This could imply that the higher levels of law enforcement and better communications to the motorists in the area are effective in reducing crashes.

Getting the message to the road user is one of a range of key safety interventions!