

An Australian in DETROIT

A world leader in cutting edge research for the Transport Industry is an Australian, based at the University of Michigan in the United States. *Prime Mover* speaks with Peter Sweatman.



Even if you don't know the name Peter Sweatman, you'll certainly be aware of his work and his influence on your day-to-day life.

Peter was instrumental in the development of new technologies and new regulations in Australia. His legacy here, developed working as a scientist for ARRB and later as a director of Roaduser, is the scientific basis of the Performance Based Standards that assess innovative high productivity vehicles for use on our roads. The process of introducing large numbers of these kinds of vehicles onto our roads may have stalled, but the groundwork leading up to their initial introduction owes a lot to the efforts of Peter, both as a transport scientist and as an advocate of new technology in transport.

After many years spearheading the introduction of technological innovation in the Road Transport Industry, Peter moved to the USA and pastures new. Five years ago, he took up the prestigious post of Director of the University of Michigan Transport Research Institute (UMTRI) based in the small university town of Ann Arbor, a short drive out of the Motor City itself, Detroit.

Next year's HVTT Conference in Melbourne will see Transport Industry experts from around the world sharing their valuable expertise, and Peter will be one of those delegates. *Prime Mover* took

the opportunity to talk to Peter from his home in Ann Arbor about his perspective on the introduction of innovative transport technology and the impact of future legislation on the Road Transport Industry.

Centre of excellence

The State of Michigan has been battered by the recent economic downturn, with the industrial heartland of Detroit being hit hardest of all. Unemployment stands at 12 per cent and the automobile giants are tottering. (And one has now fallen.) The University of Michigan, though, can draw upon its position as a nationally recognised centre of excellence to keep its head above water in these difficult times. "I am not involved in the truck side of things as much as I was back in Australia, as I have responsibility for all transport research," Peter begins. "One of projects I've been involved in is the study of the impact of plug-in hybrid vehicles on the national power grid. I've also been working on projects around vehicle infrastructure integration and vehicle-to-vehicle wireless communication. "I have really enjoyed the whole working atmosphere over here. There is no bullshit in terms of hierarchy, you can talk to anybody and be pretty straightforward. So, generally speaking, it's really positive."

For Peter, it is a chance to play in a bigger sandpit. UMTRI works closely with some

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of the biggest fleets in the US transport industry (fortunately, the third biggest transport operation in the US, Con-way, bases most of its fleet on the outskirts of Ann Arbor), all of whom are interested in improved efficiency.

The opportunities offered an organisation like UMTRI can see them involved in large projects costing up to \$25 million. These sorts of budgets would have been unthinkable for him in Australia.

"Being the University of Michigan we are expected to get some academic output from these projects, we are not just working as consultants. We like to get involved with cutting edge research work, that's what we're here for. Our research faculty want to be involved in it so they can advance their careers," he says.

"One project, a strategic highway research programme under the National Academy's Transport Research Board working on some fundamental research, is collecting data calculating risk associated with drivers out on the road. We have two-and-a-half thousand person

years of naturalistic driving data. It's on a huge scale; we regard this as the project of our generation."

Eighty per cent of the sponsorship for UMTRI projects comes from the United States Department of Transport, but organisations like the Department of Energy and the EPA are increasingly stepping up to the plate. Higher masses, and what the Americans call longer combination vehicles (LCVs), have long been a dirty word in the United States. There has been movement recently, however, with Peter revealing that there may be some opportunities to develop higher productivity vehicles in some states.

"They are going to start looking at it more seriously. There is a lot of opposition in some states, but we think the time is right. Ontario in Canada has just announced a new program involving LCVs, using two of the current trailers together. They are talking about things like Turnpike Doubles consisting of two 48 foot trailers joined by a dolly. They are all tandem axles and run light."



A Turnpike Double. Photo courtesy of Ralf Peter Reimann.



A Rocky Mountain Double in Utah.
Photo courtesy of Rick McOmber.

Other jurisdictions approve Rocky Mountain Doubles with a 48 foot semi-trailer pulling a 28 foot trailer behind, while some allow triples consisting of three 28 foot trailers all on single axles. Authorities may even consider letting operators run with 53 foot trailers.

"These kind of things have been around for many years in certain locations, but the difference now is a general move towards these Turnpike Doubles," Peter explains.

"I have just been up to Canada, to Winnipeg in Manitoba. There is a group at the University of Manitoba studying Turnpike Doubles running on a pretty extensive network, 100,000 kilometres of roads involving three states, Manitoba, Saskatchewan and Alberta. They have been monitoring what has been going on, quantifying safety aspects and crash rates, and working on understanding the usage patterns a lot better.

"They've done a great job because a lot of this has been questioned in the past with the same objections coming up again and again. They have pulled together a lot of information to demonstrate that these vehicles are very safe, safer than the normal semis.

"That's the big news here on the heavy truck front. Turnpike Doubles are starting to be looked at seriously and at some point, they are going to have to look at allowing them on congested highways, as well. There are benefits there."

Peter is also currently involved in a study in Texas where the authorities have abandoned a large infrastructure

development called the Trans-Texas Corridor and are now turning their attention to more practical projects. They see LCVs as a pragmatic way forward.

"All of the work I've done over the years tells me that there is a huge benefit with LCVs, if you look at it in terms of what the evidence tells you. Strangely enough, we couldn't sell it on safety grounds or productivity in the past, but when it comes to carbon emissions I think we have a winning argument. There aren't a lot of options for heavy trucks unless we are going to adversely affect the economy. This is the thing that is going to force serious consideration of LCVs; two trailers instead of one behind one power unit gives you a tremendous advantage."

Most of the concerns about new transport developments hover around the bottlenecks that blight the outskirts of cities. A lot of the city deliveries are done by semis and the proportion of rigid trucks is much lower than in Australia. This has the effect of reducing congestion, as there is good highway access for big trucks into the hearts of the big cities.

"There are some very well organised lobby groups here in the USA. There are strong groups, like Mothers Against Drunk Drivers, who are very well resourced and very knowledgeable. As soon as anyone talks about LCVs there is plenty of activity by the lobbyists in Washington. Everyone here goes to Washington and hires a lobbyist. There are groups working pretty hard, some of them associated with the rail industry, fighting the issue."

Homeward bound

Peter is looking forward to escaping these political battles to revisit his hometown of Melbourne for the HVTT Conference and meet up with the global experts spearheading technological change in heavy trucks.

"The last HVTT Conference took place in Cooloolm and we had such a great line-up of high productivity vehicles there for the delegates to see. I'm sure there'll be something of that nature at the meeting in Melbourne," he says.

"I'm hoping to hear good news about PBS in Australia. I thought we'd come up with a bulletproof system for the PBS, but there seems to be some difficulty in getting it accepted in all the states. If they really understood how conservative and how carefully constructed all that technical work is then maybe they wouldn't be quite so worried. I'd love to see that work get put to good use.

"There's a lot of interest over here in developments around multi-combination vehicles and there is also quite a lot of interest in the chain of responsibility.

Australia has done a lot of good work in that area and it's a chance to show off to the world.

"There are also more and more of these permit schemes for multi-combination vehicles appearing around the world. Every time we have one of these conferences we hear about more countries trying them. To many, Australia is the world's laboratory for innovative trucks and I think we put more effort into it than anybody else does."