

# [Last Word.]



## Looking to the future

[ By DOUG HARLAND ]

■ Current transport paradigms are no longer affordable or sustainable. Electrification of our urban transport system is urgently required, but we need to think beyond electric cars.

Australia's taxation base provided by our small population is simply too small for the size of our country to adequately service the population's infrastructure expectations. With congestion in all cities increasing significantly, the result of population peak growth rates in excess of 300,000 per year, it will only get worse. In addition, Engineers Australia's infrastructure report card identified most infrastructure was 40 years old and needed hundreds of billions of dollars to bring it up to a quality standard – couple this with emerging climate change impacts, and the enormity of the challenge is sobering.

Consider Brisbane as a case in point. Although a genuine attempt is being made to ease congestion through major investment in road upgrades using current technology I can share two actual experiences that illustrate a major vulnerability.

I left the suburb of Oxley one morning at 6am for a flight at 8.30am, where in good conditions it is a 40-minute drive. I missed the plane. The \$2.5 billion investment on 20km of the Ipswich motorway, and the \$3 billion investment on 5km of Clem 7 tunnel were severely compromised by two people who had a bad day and caused an accident, one on the new Ipswich Motorway and one on the Gateway Motorway. Brisbane was gridlocked.

More than \$2.5 billion has been invested in Bruce Highway upgrades, and significant works were recently completed between Brisbane and Caloundra. A drive from Caloundra to Brisbane can take one and a quarter hours, however at peak hour, in spite of recent upgrades, the journey becomes two to three hours as one idles along in the congested traffic – more if an accident occurs. Yet to meet unprecedented population growth a satellite city of 50,000 people by 2031 is being planned in the area adjacent to Caloundra, and the transport infrastructure challenges will be huge.

It is clear the electrification of our urban transport systems is urgently needed. But are we destined to have electric car congestion or is there a new paradigm for the future to provide a more sustainable urban transport system? Rail will provide some relief, but is not the total answer. What, then, is the solution?

Several solutions will present themselves: walking, cycling, Segway-type units and personal pod transporters, the latter in my view being the most promising and suited to all weather conditions and providing the most potential for fast, comfortable, low and renewable energy mass transport. Yes, the idea of a pod transporter

needs research and development; however that research commitment needs to start now and that is the basis of this article.

Many now hold the view personal 'pod transporters' need to be developed as our next affordable and sustainable urban transport solution. Imagine a comfortable capsule that seats two to eight people (similar to a cable car cabin) on an elevated track, weighing less than one tonne, stationed within twenty minutes' walk from your home that can have its destination dialled in and travel at 100 kilometres per hour with no intersections to your destination. A consortium involving NASA is one that is looking at a 240km/h sky train. The publically-owned pod is always available so timetables become a thing of the past. While the Skytran concept still has intersections and relies on intelligent systems to bypass congestion, the ability to change to alternate loop tracks at high speed with no intersections would be preferable.

The equivalent of about two months' expenditure on a tunnel project would pay for the factory to manufacture pods for the Australian market, another two months' expenditure would pay for the factory to build the drive motors, and the standard monorail sections made from steel or concrete could be made in a factory requiring a similar investment.

In comparing the manufacture of a pod to a car, the embodied energy and material savings are enormous, as it would be long-lasting public infrastructure and it would not require a new design every few years. It could operate on renewable grid-based energy with far less energy consumed per kilometre per tonne. Skytran states it would be equivalent to a car achieving 200mpg. It is a great alternative to meet the emerging peak oil challenge.

The track would also have low maintenance costs compared to road and rail, again providing a significant economic benefit. The track can be multi-layered to provide additional capacity.

City streets would only be required for construction, maintenance and delivery vehicles and many could have half the sealed area converted to green space.

Capacities to move more than 40,000 people per hour are estimated as achievable. While it still an idea in its gestation period, it urgently needs a consortium to be formed with relatively modest funding to work with design faculties of universities to simulate it for a city in virtual reality, to identify the many challenges that inevitably arise with a new technology and determine the solutions to each. I acknowledge retired engineer Brian Garsden who stimulated my thinking through his book *Goodbye Gridlock*. We have to find a better and more affordable urban transport solution that is sustainable. To me, personal transporters are a real, practical option for the future and are in urgent need of research and development. **GN**

**DOUG HARLAND**  
IS CEO,  
AUSTRALIAN GREEN  
INFRASTRUCTURE  
COUNCIL.

# GN

Government News

PUBLISHED BY:  
**INMEDIA PUBLISHING PTY LTD**  
PO Box 55 Glebe NSW 2037 Australia  
T: (02) 9660 2113 F: (02) 9660 4419  
www.intermedia.com.au

Managing Director: Simon Grover

Publisher: Mark Kuban

#### EDITORIAL

Editor: Angela Dorizas  
E: adorizas@intermedia.com.au  
T: 02 8586 6130

Journalist: Lilia Guan  
E: 02 8586 6146  
T: lguan@intermedia.com.au

#### ADVERTISING

National sales & Marketing Manager:

Joanne Le Vene  
E: jlevene@intermedia.com.au  
T: 02 8586 6162 M: 0407 725 922

National Accounts Manager:

Brad Lawson  
E: blawson@intermedia.com.au  
T: 02 8586 6197 M: 0410 440 988

#### PRODUCTION AND DESIGN

Graphic Designer: Michelle Cruise

Production Manager: Jill Lehmann

CONTRIBUTORS: Craig Donaldson,  
David Ipp, Jo Cooper, Jane Dargaville,  
Katrina Ganin, Penny Langfield

Head of Circulation: Chris Blacklock  
E: cblacklock@intermedia.com.au

#### SUBSCRIPTION RATES:

Australia (surface mail)

**\$96.80 inc GST.**

Overseas rates on application

**8,633**

Average Net Distribution Per Issue

CAB Publisher Statement

Period ending 30th September 2010.

ISSN: 1447-0600 Audited circulation

DISCLAIMER: This publication is published by Inmedia Publishing Pty Ltd (the "Publisher"). Materials in this publication have been created by a variety of different entities and, to the extent permitted by law, the Publisher accepts no liability for materials created by others. All materials should be considered protected by Australian and international intellectual property laws. Unless you are authorised by law or the copyright owner to do so, you may not copy any of the materials. The mention of a product or service, person or company in this publication does not indicate the Publisher's endorsement. The views expressed in this publication do not necessarily represent the opinion of the Publisher, its agents, company officers or employees. Any use of the information contained in this publication is at the sole risk of the person using that information. The user should make independent enquiries as to the accuracy of the information before relying on that information. All express or implied terms, conditions, warranties, statements, assurances and representations in relation to the Publisher, its publications and its services are expressly excluded save for those conditions and warranties which must be implied under the laws of any State of Australia or the provisions of Division 2 of Part V of the Trade Practices Act 1974 and any statutory modification or re-enactment thereof. To the extent permitted by law, the Publisher will not be liable for any damages including special, exemplary, punitive or consequential damages (including but not limited to economic loss or loss of profit or revenue or loss of opportunity) or indirect loss or damage of any kind arising in contract, tort or otherwise, even if advised of the possibility of such loss of profits or damages. While we use our best endeavours to ensure accuracy of the materials we create, to the extent permitted by law, the Publisher excludes all liability for loss resulting from any inaccuracies or false or misleading statements that may appear in this publication.  
Copyright © 2008 – The Intermedia Group Pty Ltd.