

JIM

This man feels more can be done to reduce the number of deaths on US roads. But finding the balance between safety and cost is the industry's ultimate balancing act

Sexy cars sell well – but safety isn't seen as a sexy subject yet. "Most people still look at styling," begins Jim Barbaresso, vice-president of ITS at HNTB in Michigan, USA, "but there is a trend toward a more environmental and safety-conscious consumer."

The 55-year-old believes manufacturers in the USA do not place enough emphasis on safety in their marketing campaigns, which bemuses him. With two teenage daughters, both of whom are now behind the wheel, safety features such as ESC, ABS, side airbags and structural integrity tick his boxes long before in-car entertainment systems, alloy wheels, and free insurance. "Admittedly," he continues, "it's hard to sell a feature that isn't visible to the consumer – until the time that they're needed."

At the time of our conversation, Barbaresso is negotiating the halls of the Detroit International Auto Show, checking out the latest technology to make its way into the 2008/2009-model vehicles. He spent a fair amount of time in the GM pavilion and was pleased to observe the amount of onboard wizardry on display.

One of the safety features that jumped out for him was Cadillac's lane departure warning system, although 'Boss' – the Chevrolet Tahoe that won the DARPA Urban Challenge in November 2007 – was perhaps the main highlight. "It may not have been

the prettiest vehicle at the show, but to my eyes it was a work of art."

DOWN TO BUSINESS

He's like a kid in a candy shop while perusing such exhibits, but Barbaresso's visit was more business than pleasure. His company, HNTB, is under contract with the Michigan DOT to provide technical and administrative support for Michigan's VII program. HNTB has been the designer and engineer of record for both the I-696 POC testbed and I-96 testbed expansion projects in Metropolitan Detroit. Additionally, it is involved with the Michigan DOT in developing a VII demonstration for the ITS Michigan Annual Meeting in May, at which up to 10 applications will be demonstrated.

HNTB is also involved in Florida's VII program as a technical advisor to the Florida DOT. But on a higher standards and national program level, HNTB is a member and key contributor to the OmniAir Consortium – which is currently developing a national 5.9GHz DSRC Certification Program under cooperative agreement with the USDOT.

Much has been written about VII in these pages, and although Barbaresso feels that many technical and institutional questions remain, market forces seem to be driving the direction of the program. "Taking advantage of this momentum is key to going forward," he says. "I am a proponent of this approach

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because I believe too much structure and governmental oversight will stymie progress." He also feels it is important not to lose sight of the overall vision of VII. "Structure and discipline are still needed," he states, "and the USDOT is working toward a good balance between program structure and commercialization."

The disadvantage of such an approach, however, is that the thrust of the program could be based on consumer demand and commercial applications. This might result in less emphasis on safety applications and more emphasis on telematics and commercial entertainment features. "As with most safety applications, though, some level of governance will be required," he says.

VII DEMONSTRATIONS

So what stage are we at with the whole VII movement? "You will see testbed activities and some sizeable demonstrations in 2008 that will create excitement in the industry and stimulate further development, entrepreneurial creativity and deployment. The ITS Michigan Annual Meeting in May will have one of the first and largest VII demonstrations and, of course, November's World Congress in New York City will be a major focus for the VII community this year."

As plans evolve at the Volpe Center, Barbaresso says that some important announcements will likely be made in late-2008 regarding the new direction of the VII program from the USDOT perspective. So with things moving in a positive direction, are there concerns that decisions relating to the real-world deployment of VII are likely to come down to cost? As important as it is to save lives, could the financial cost of



VII simply outweigh the human one? "This argument has been one of the driving factors in the ITS program since the early 1990s," Barbaresso counters. "I was the program manager for an ITS operational test program to deploy a roadside beacon-based dynamic route guidance system from 1992 through 1996. Although it seemed that the technical concept was a good one, the expense of the infrastructure and communications to support the system was its undoing." Consequently, it was dismantled in 1997.

Today, however, Barbaresso insists the concept is more viable, especially if it is possible to leverage currently deployed infrastructure, such as communications networks, or to integrate VII roadside

equipment with other viable applications, such as toll tag readers. "Another key is to limit the deployment to geographic areas and roadway networks of greatest need," he suggests. "Is VII needed at every intersection? Probably not."

But major intersections with high crash rates would be ideal candidates for intersection collision warning and avoidance technologies. The new VII direction in the USA could therefore stimulate entrepreneurs to find new, commercially viable applications and methods of financing VII. Securing political funding for VII infrastructure will be a challenge. Funding for transportation infrastructure improvements in the USA is at risk as fuel economy continues to

BARBARESSO: A MAN ON A MISSION

With roots in crash-data analysis, HNTB's Jim Barbaresso has devoted practically every year since leaving that discipline to improving road safety and saving lives. The future, however, seems to be something that he cannot wait for

What is your own experience of the roads as a road user?

I have personally witnessed huge increases in traffic where I live over the past three decades, and – because of my chosen profession – I have had a great impact on improving mobility and safety on these roads. I take a great deal of pride in the roads and highways where I live because I helped design many of them. Every day, I witness the safety implications of many of my recommendations. The same goes for the ITS devices during my daily travel.

What would Ralph Nader make of the auto industry's progress over the past 40 years? The industry was initially reactionary, driven to integrate safety features by regulation or liability. I think we are witnessing a gradual

shift toward a safety-oriented culture – more evolutionary than revolutionary. Over the past 40 years, we've seen how safety has influenced vehicle design from the standardization of seatbelts to mandatory airbags and other safety features. We have also seen it in highway design, operations, institutions, and enforcement. In that same 40-year timeframe, highway design standards have changed and have had a dramatic impact on highway safety. The establishment of NHTSA and its predecessor agency, the National Highway Safety Bureau, in the 1960s coincided with the construction of the Interstate Highway System.

Over time, the enforcement community has become a strong champion for traffic safety. Much of the shift to a safety-oriented culture can be attributed to

government regulation, promotion and enforcement. The result is that safety consciousness has become more mainstream in the past decade, and consumers are beginning to take notice.

No matter how futuristic, what do you think our roads will be like in 2020?

I recently told a story about how I will buy a 'telecommuting portal' instead of a third family vehicle in 2020. Although this may be an exaggerated version of the future, it is certainly not outside the realm of possibilities. One way to achieve zero fatalities is avoid driving completely. Obviously, this will not happen in 2020 or even within my lifetime. Imagine, however, that you are able to conduct almost all of your business without leaving your house, and it will be as if you are right there in the room meeting with your business associates and colleagues – no matter where they are in the world. You are able to shake their hands and read the materials they distribute on your 'smart pad'.

In this future scenario, goods are delivered to you. Our road network becomes more of a commercial network. Most shopping is done online. Logistics companies, communications companies and

