

Morphology

There's a more flexible alternative for tolling in the future, says TransCore's John Mike



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The mantra of 'low integration cost - low operating cost' will in the next few years drive a new approach to how public authorities approach toll road operation in the US, according to John Mike, TransCore's Senior Vice President, Revenue Management Systems Development. And while Public-Private Partnerships (PPPs) may not be the most appropriate solution for every situation, some of the philosophies enshrined therein can be adapted such that all can benefit, he says.

The potential effects on tolling in North America could be profound but there is a need to challenge many of the prevailing orthodoxies, he feels, reiterating a point that TransCore has championed forcefully now for several years - that Vehicle Infrastructure Integration (VII) won't happen in anything like the timescales being put forward, and that tolling needs to be future-proofed in the meantime.

A matter of ethos

"The key to all of this is that the private sector tends to be the most able to deliver true customer satisfaction and low operating cost. The public sector, by contrast, tends to be more risk-averse and more willing to spend to avoid risk," Mike says.

"By being predisposed to designing for true academic value, there's less of an incentive for the public sector to account for every dollar despite sharing with the private sector the same operating principle - of having to compete with free services.

"Public-sector tolling organisations are also burdened by the relatively short length of electoral cycles at the State Governor level. That can make it tough to make the longer-term decisions and commitments which make it easier to spread costs, although paradoxically we can then run the risk of technological stagnation."

Process of evolution

What needs to emerge is a hybrid approach, he says, with government authorities effectively operating under PPP rules: "It needs the government to take a more commercial rather than a protective view and it's something I can see happening within a three-year time window; I think we're going to see a huge transition in bylaws and the approach to PPPs in the near future."

'Low cost', to many, is a euphemism for 'cheap' and there is much to the old axiom that 'You get what you pay for'. Mike feels that this is open to misinterpretation. In his eyes, the public sector tends to over-design solutions and err on the side of caution.

"I don't see that any authority is going to compromise unduly on functionality, so 'low-cost' shouldn't be taken to mean 'low capability'.

"I don't see either that having large, collective bargaining groups is an answer to all this. Big groups are no more than a comfortable, low-risk solution - generally, once a large group makes a contract it might enjoy an initial cost saving but then there's no opportunity to go back and enjoy innovations.

"One can see examples of this on both seaboards: in California, there has been no technical innovation within Title 21 since it was launched in 2000. On the East Coast it's the same; since it was set up in 1994 there has been no technical development within the E-ZPass Interagency Group.

"That brings me back to the idea of modified PPPs. The hybrid

approach might work, even for these larger groups, if they were to open things up every two or three years and look at what's been developed since the contract was first signed. That would encourage competition and creativity. It would also provide best value for the purchaser."

Rather than advocating a national technology, the emphasis should be on national interoperability, he adds.

Rate of progress

"There's an absolute need for innovation but I can't think of a single example of a dictated technology choice staying ahead of the development curve. There should be a drive for coast-to-coast interoperability but I don't think that governments and consultants have enough ability to keep standards current."

In terms of current standards development, the perfect is the enemy of the good, he says, casting doubt on the commercial viability of the VII programme: "I'm not convinced that it's yet commercially viable and I think that the current standards definition route is too encumbered. We should be promoting open standards, not proprietary ones. Simplistically, we should have all states find a way to grandfather their existing systems, and have them all work together, rather than force everyone to subscribe to a new ISO specification.

"The future of tolling will be driven by the private sector. Meanwhile, the public sector will provide the sheer quantity of opportunity whilst enjoying the commercial opportunities. Tolling is a VII afterthought, a justification for an application with a present need. When it comes down to it, tolling is still really only about throwing a quarter in a bucket and then finding some way to achieve reconciliation. It doesn't need huge amounts of bandwidth for real-time communication and information backhaul - does the total disruption which VII will cause to tolling warrant the cost?"

"There's the further issue of who owns the technology and collects the money. That's probably not an insurmountable problem but there'd be a huge effort involved in bottoming that one out. I don't think anyone would deny that a huge amount of intellectual effort has gone into VII but almost none has gone into the commercial aspects."

Current technologies - an alternative future

Mike's vision is of national interoperability using current technologies - and, he says, we may already have reached the level of market saturation in North America that would make that achievable. In truth, he continues, all that is needed is "one good, long working session at the national and state level" to sort out compatibility issues.

"We've all drunk the VII elixir. It's seen as the tolling transaction panacea but it's now sapping progress. We need to address again the schedule for deployment and cost, and come back to a position of realism.

"The trend in tolling technology is towards low acquisition costs and lowest operating costs. We need to determine the loss of academic functionality versus true functionality. If the latter comes up short, it's a non-starter for jurisdictions. But we're seeing the emergence of new memory products with lower power draws, conducting inks and flexible substrates. They're driving continual cost reductions and improvements in tag performance. ➔

➤ "In the US there are probably around 30 million tags. Relatively, that's not a large quantity and the tolling industry is still charged a premium at the chip level. We're never going to see a sub-\$1 tag but the days of the \$30-40 tag should pass. Now, hard-case tags sit at around the \$24 level and flexible tags can be had for around \$10. Hard-case tags currently account for about 90 per cent of the market but as the economies of flexible tags become more widely known I'm sure things will change. There's no sustainable reason why the situation can't be reversed and we can have flexible tags take that 90 per cent share.

"Current hard-case tags have a five to six-year battery life. I suggest we're in fact looking at 12-15 years for full VII deployment but even if we stay with just 10 years that means

each tag needs to be swapped at least 1.8 times. There's getting on for half a billion dollars of savings to be had with new soft tag technology before VII happens along in any meaningful sense."

Mike accepts that TransCore's is the minority voice but refuses to go with the flow as, he says, "I just don't think it's the right path. I'm convinced the VII schedule will be extended. The 'viability decision' due at the end of 2008 is just a delay in any other name and the commercial aspects of the project remain very fragile in my view.

"It is, though, a great technology. I absolutely don't think we should kill it. But we should take a good dose of reality and look to our options in case the planned deployment schedule doesn't emerge." ■

Flexible rates

When transponder prices are too expensive for the average motorist, ETC adoption rates fall far below acceptable levels or stall. Economical paper-thin sticker tags have been instrumental in accelerating consumer adoption and overcoming this obstacle, according to TransCore. Puerto Rico's AutoExpreso system, the first toll deployment of sticker tag technology, continues to exceed

expectations at a pace few anticipated. In less than three years, the five-year tag goal was met and sales now exceed half a million. In July the Washington State Department of Transportation launched its Good to Go toll collection programme and distributed more than four times the expected number of eGo® Plus sticker tags.

Likewise, annual production of

eGo sticker tags surpassed demand for predecessor hard-case models, marking the shift towards newer economical and versatile RFID tags. In total, more than 3 million eGo tags are in active service worldwide including in Georgia, Jamaica, Mexico, South America, Texas, Washington, Puerto Rico, in Shenzhen, China and with the US Customs and Border Protection Agency.

Each eGo sticker tag comes equipped with a factory-programmed tag identification number that prevents the tag from being duplicated. The tag has an extended read range of up to 31.5 feet (9.6m) and 1024-bit read/write memory and has the capability to read, write, rewrite or permanently lock individual bytes. Custom printing and labeling is also available.

