

## New Perspectives on ITS

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oseph S. Sussman, professor of engineering at the Massachusetts Institute of Technology, has been involved in the Intelligent Transportation Systems program since the late 1980s. He participated in the development of the original ITS Strategic Plan, served on the Board of ITS America and has been an active participant in numerous ITS-oriented professional activities. He also has been a prolific writer. A selection of his writings has now been published in book form (*Perspectives on Intelligent Transportation Systems*, Springer Inc., 2005). In it, Sussman examines the state of the art of ITS technology and assesses its strengths, weaknesses and opportunities.

The essays show how the author's view of ITS evolved over time. In the beginning, he writes, he viewed ITS as just another example of a marriage of transportation and technology, a phenomenon that has existed throughout history. It was only later that he came to appreciate the broader impact of this technology — its potential to improve transportation systems performance, its vital function in enhancing transportation management and operations, its stimulus to institutional reform, and its role as a change agent for the transportation profession and transportation education.

Of particular interest to this reviewer was an essay toward the end of the anthology, entitled “What We Know Now That We Wish We Knew Then.” Presented by the author at the TRB Annual Meeting in January 2004, it's a retrospective look at the 1992 Strategic ITS Plan in whose formulation Sussman played a major part. The Plan served as a blueprint for the early development of the federal ITS program.

Sussman frankly admits that there was much the authors of the Strategic Plan did not appreciate about ITS when the Plan was written. “As I look back on that 1991/92 effort,” he writes, “while we did get much of it right, there was a good deal we got wrong... Some of these omissions were subtle; others were of the form ‘How could we not have thought of that?’ ” Emblematic of a not-so-subtle omission, he says, was the absence in the 1992 Strategic Plan of any mention of the Internet.

The article demonstrates how difficult it is to develop a long-range vision and to predict commercial success for a rapidly evolving technology such as ITS. For example, Sussman writes, “what we did not foresee was the explosion in the methods of delivering traveler information... The idea of the Internet as a source for traveler information had not occurred to us....The notion of ubiquitous use of cellular phones as a mechanism for receiving real-time traveler information during a trip was not fully appreciated...”

Another early misconception was the weight to be given to saving time. Sussman writes: “In the Strategic Plan of 1991/92, we emphasized the benefits of improved travel times to drivers as a key economic benefit of ITS.... [but] it now appears that actual highway travel time savings are often ephemeral and rather small....There is little empirical evidence to show that the small improvements in average travel time are economically meaningful. Indeed, improved reliability is proving to be more important than improvements in average travel time...” In other words, “Operation Timesaver” which the then Transportation Secretary Enrico Peña announced with great fanfare in January 1996, appears in retrospect to have been based on a false premise. To those of us who back then questioned the rhetoric behind that initiative, Sussman's verdict comes as a belated but nonetheless gratifying vindication. (See, “Operation Timesaver: A New

Direction for the Federal ITS Program?” *InnoBriefs*, February 1996).

Again and again Sussman notes how the early hopes and assumptions of the Strategic Plan’s authors remained unfulfilled — be it Advanced Traveler Information Systems (ATIS) becoming for-profit ventures (... at this writing, it is clear that making a profit in this business is very hard”); electronic toll collection becoming near universally deployed (“Who thought it would take so long?”); or the technology of ITS becoming mainstreamed in region-wide operations (“... regionalism has faltered under the difficulties in overcoming many of the institutional issues in cooperating on transportation needs”).

Sussman concludes on a cautious yet positive note. “...Good progress has been made in ITS. The field has matured. The profession is changing. And in all, we see ITS as an integral part of our surface transportation system, building on our current successes for years to come, But, patience, as always, will continue to be required as we wait for full impacts of ITS to be felt.”

For anyone interested in the origins and evolution of this still young technology, *Perspectives on ITS* offers valuable insights from one of its most distinguished chroniclers, interpreters and advocates.

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