



RETURN ON INVESTMENT FROM TRANSPORTATION TECHNOLOGY DEPLOYMENT

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Development and deployment of technology has always been, and is, critical to effective transportation. Intelligent Transportation Systems (ITS) are widely recognized as an enabler for use of technology to integrate the many modes, services, functions, and devices increasingly available to the public and private sectors to improve system transportation performance.

The costs and benefits of these technologies are often expressed in terms of a return on investment (ROI). When ITS technologies are combined with traditional investments the resulting synergies can produce multiplied benefits such as: increased safety; economic returns in the form of efficiency; time savings; and environmental and sustainability benefits.

Historic government funding sources for transportation products and services are increasingly unstable. There is no silver bullet solution to establishing a means to ensure transportation capacity needs are adequately met. Increased government funding through user fees is one important element to keep up with our nation's needs for additional transportation infrastructure. In addition, public-private partnerships can also play an important role.

However, these alone are not sufficient. One important need is to get more transportation benefit out of existing and new infrastructure through the deployment of ITS. Studies in the U.S. and abroad show that deploying ITS technologies have a greater return on investment dollars than most other transportation spending. ITS can: boost infrastructure capacity through more efficient use of the existing roadways, decrease commuter time in traffic, improve the quality of life and reduce the transportation systems' impact on the environment. For example:

- Studies have shown that intelligent transportation systems and other smart technologies are cost effective and quick to deploy. Solutions like synchronized and adaptive traffic signals yield a \$40 return in time and fuel savings for every \$1 invested while also reducing CO₂ emissions up to 22 percent and travel delays by 25 percent or more.
- The Government Accountability Office found the benefit-cost ratio of a nationwide real-time traffic information system to be 25 to 1, with a \$1.2 billion investment returning more than \$30 billion in safety, mobility and environmental benefits.
- Since Jan 2008, E-ZPass® has saved 76 million gallons of fuel, the equivalent of \$213million dollars to consumers.
- The highly-successfully PrePass program that allows for commercial trucks to be electronically identified, weighed and have their credentials verified at specially-equipped truck inspection facilities while bypassing at highway speeds. Since its deployment in 1997, PrePass has saved carriers more than \$ 2.9 billion in operational costs, including fuel savings of more than 180 million gallons. Based on EPA engine idle reduction estimates, since its inception in 1995, PrePass has reduced emissions by more than 403 thousand metric tons.
- Utah Transit Authority increased on-time reliability of its fixed-route bus service from 64% to 87% in three years as a result of implementing vehicle tracking technology. The "automated vehicle location" (AVL) system gives bus operators real-time feedback about their on-time performance. The driver display turns yellow when the bus is 5 minutes or more late departing a stop. It turns red if the driver departs early.
- The Bi-Partisan Policy Commission estimates that ITS deployment can result in an ROI of 9:1.

These are just a few examples of how ITS technologies allow capacity enhancements to the system.

As bolstering America's economic growth remains a critical public policy goal, ITS deployments can create sorely-needed jobs. Researchers from the London School of Economics and the Information Technology and Innovation Foundation found that investing in ITS creates a network effect throughout the economy and stimulates job creation across multiple sectors, including: automotive, information technology, electronics, green jobs and other industries.

In the U.S., ITS is a \$48B industry that employs over 183,000 people and has suppliers and customers in every state. The industry is projected to grow to \$67B and employ 208,000 people by 2015. Deployment of Intelligent Transportation Systems provide a significant return on investment in an era where transportation funding is uncertain and transportation service providers must get more benefits out of each dollar spent.