

INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent transportation systems (ITS) include a broad range of services and technology solutions that provide and manage information to improve the safety, efficiency and performance of our transportation network. These services and technologies include the following:

- sensors to detect congestion and monitor traffic flow;
- video surveillance cameras for detecting stalls, vehicle crashes and congestion locations;
- real-time traveler information systems and services to help manage traffic congestion and provide travel choices;
- equipment on vehicles that alerts drivers to dangerous situations;
- advanced traffic signal and control systems for smoothing traffic flow and dynamically adjusting to changing traffic conditions;
- smart technologies for monitoring road weather and air quality;
- advanced communications to assist responders in accessing and implementing emergency responses;
- electronic payment systems that allow travelers to pay tolls without slowing down; and
- technologies for managing freight and fleet vehicles transporting goods to markets.

Benefits of ITS

Reducing Traffic Gridlock

Active traffic management and incident response systems, intelligent traffic signals, smart transit and parking systems, road pricing, weigh-in-motion truck inspections, electronic tolling, ramp metering, real-time information and navigation systems, high-occupancy toll (HOT) lanes, and bus rapid transit are among the many ITS-enabled solutions available to help reduce gridlock, provide drivers and operators with more efficient travel options, and improve the reliability of freight movement.

Improving Mobility and Access

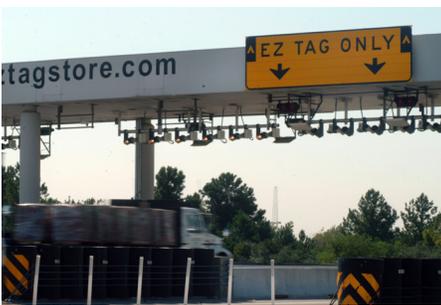
Through computers and smart phone technology, commuters are just one click away from real-time traffic, transit, parking and even routing information with which to make convenient and cost-effective travel decisions. ITS helps connect elderly and disabled Americans with a one-stop shop where they can arrange all of their transportation needs.





Preventing Crashes Before They Happen

Collision avoidance technologies are now on the market that, if deployed more broadly, could prevent or reduce the impact of an estimated 31 percent of traffic crashes. Infrastructure-based safety systems can help warn drivers, operators and pedestrians about dangerous situations.



Providing Efficient Financing Alternatives

Electronic toll collection and integrated payment systems are providing agencies with traffic management tools that can also raise much-needed revenue, such as open road tolling, HOT lanes, congestion pricing, and smart cards for transit, tolls, parking and other services. ITS also provides the capability for future financing alternatives such as a mileage-based user fee that could vary by pricing zone, time of day, congestion level, vehicle classification or other factors.



Transitioning to a Performance-Based System

As policymakers seek to create a more efficient transportation network, ITS technologies are essential for providing the accurate, real-time traffic and transportation system information needed to measure the performance of our roadways and transit systems. In turn, cities and states can use that information to actively manage the transportation system to reduce congestion, make better use of existing capacity and meet performance goals.



About TTI

The Texas A&M Transportation Institute, established in 1950, seeks solutions to the problems and challenges facing all modes of transportation — surface, air, pipeline, water and rail. The Institute works with nearly 200 sponsors in the United States and abroad at all levels of government and in the private sector and is recognized as one of the finest higher-education-affiliated transportation research agencies in the nation. TTI has saved the state and nation billions of dollars through strategies and products developed through its research program. TTI research has a proven impact — resulting in lives, time and resources saved.

TTI's Mission

To solve transportation problems through research, to transfer technology and to develop diverse human resources to meet the transportation challenges of tomorrow.

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