Intelligent Vehicles - Benefits By Program Area

Program Area/Benefit Measure		Summary
Collision Warning Systems	Safety Improvements	After a transport company installed radar sensors on trucks to warn operators of obstacles in blind spots, at-fault accidents decreased 34% in 1 year.
	Delay Savings	
	Throughput	
	Customer Satisfaction	In-vehicle computer visioning cameras were installed on 20 commercial vehicles to warn operators of drowsy driving behavior. Results showed improved safety and more comfortable working conditions.
	Cost Savings	
	Environmental	In-vehicle computer visioning cameras were installed on 20 commercial vehicles to warn operators of drowsy driving behavior. Results showed the system improved performance and decreased fuel consumption 15%.
Driver Assistance Systems	Safety Improvements	A simulation model showed that drivers with navigational devices made fewer wrong turns, used better roadway facilities, and decreased their crash risk by up to 4%.
	Delay Savings	In Turin, Italy, cars equipped with in-vehicle navigation systems experienced a travel time savings of more than 10% during the CLEOPATRA project.
	Throughput	Simulation models show intelligent cruise control vehicles (ICC) that use TMC detector data to optimize vehicle speeds and match signal timing can increase link capacity 3-6%.
	Customer Satisfaction	Participants overwhelmingly ranked intelligent cruise control (ICC) over manual or conventional cruise control for convenience, comfort, and enjoyment.
	Cost Savings	Operating costs for a service company declined 10% after they installed GPS/AVL mobile data terminals to eliminate miscommunication between drivers and dispatch.
	Environmental	Field data shows introducing an intelligent cruise control vehicle (ICC) into traffic with manually controlled cars can smooth traffic flow and reduce fuel consumption 0.4-3.6%.
Collision Notification Systems	Safety Improvements	Based on a limited number of crash events in Erie County, New York, the average notification time for vehicles with automated collision notification (ACN) systems was approximately 1 min., while notification times for vehicles without ACN ranged from 3-46 min.
	Delay Savings	
	Throughput	
	Customer Satisfaction	
	Cost Savings	
	Environmental	

Source: http://www.benefitcost.its.dot.gov *Database also includes negative impacts of ITS. Date: 11/11/2003

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