

HOW WE MAKE A DIFFERENCE PRODUCTIVITY

Americans can look with pride on how their highway system helped fuel the recent record economic growth. Although information technology can account for the steep increase in productivity, it's the efficiency of our country's transportation system in delivering products and services to their destinations that has also contributed to this growth

In the transportation field, information technology is helping to increase productivity in a number of ways. But before one can deploy a technology, one has to establish certain standards so everyone's equipment can communicate with everyone else's. The United States Department of Transportation (USDOT) and FHWA have developed the National Intelligent Transportation System (ITS) which gives a functional framework for deploying ITS technologies and for identifying where standards are needed. The architecture accommodates multiple designs using different technologies and allows these systems to interoperate with each other.



For example, because of our investments and partnerships in ITS technology, we've helped reduce the time it takes for a truck to pass through a weigh station. Many states have installed this technology, popularly known as weigh-in-motion systems. Trucks normally experience long delays in undergoing mandatory weight and equipment checks. To reduce these delays, many states have adopted the weigh-in-motion technology, which verifies information about the truck and how much it weighs while the truck travels non-stop through the station. Eliminating these delays also reduces the pollution build-up from idling for long periods of time.

Trucks passing through this weigh station in Iowa are checked automatically without the driver having to stop the vehicle.

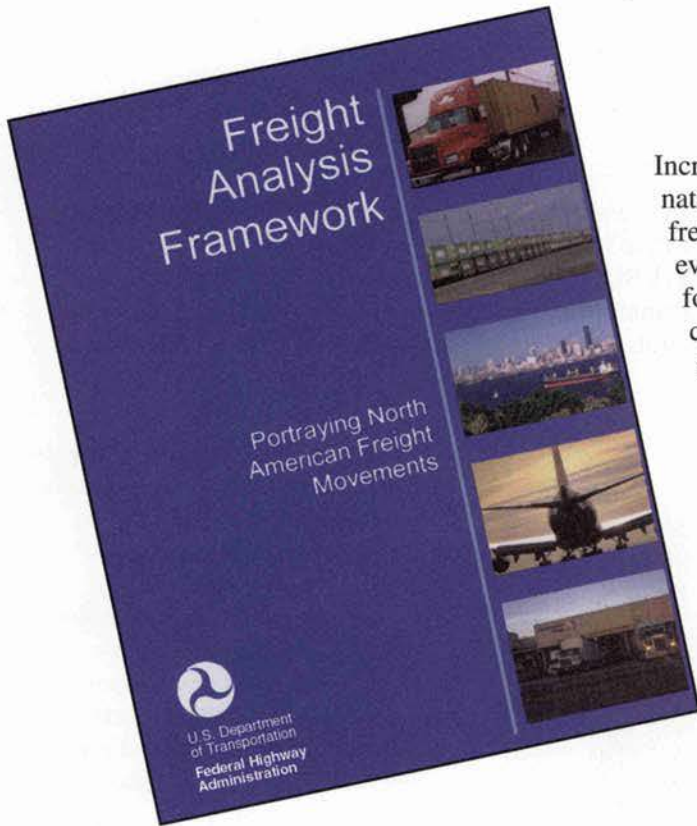
And speaking of delays, consider the time that trucks have to spend undergoing inspection at America's border crossings. Here again, our Intelligent Transportation Systems technology provides the means to electronically process trucks and cargo to speed up their journey through customs. With the increased traffic generated by the North American Free Trade Agreement (NAFTA), this is proving to be invaluable in moving goods and services between the United States, Canada and Mexico.



Federal, State and local officials gathered at the busy Port Huron border crossing in July 1999 to announce the granting of \$1.2 million in funds to improve facilities at the U.S./Canadian crossing. The improvements will help speed commerce between the two countries.



U.S. Department of Transportation
Federal Highway Administration



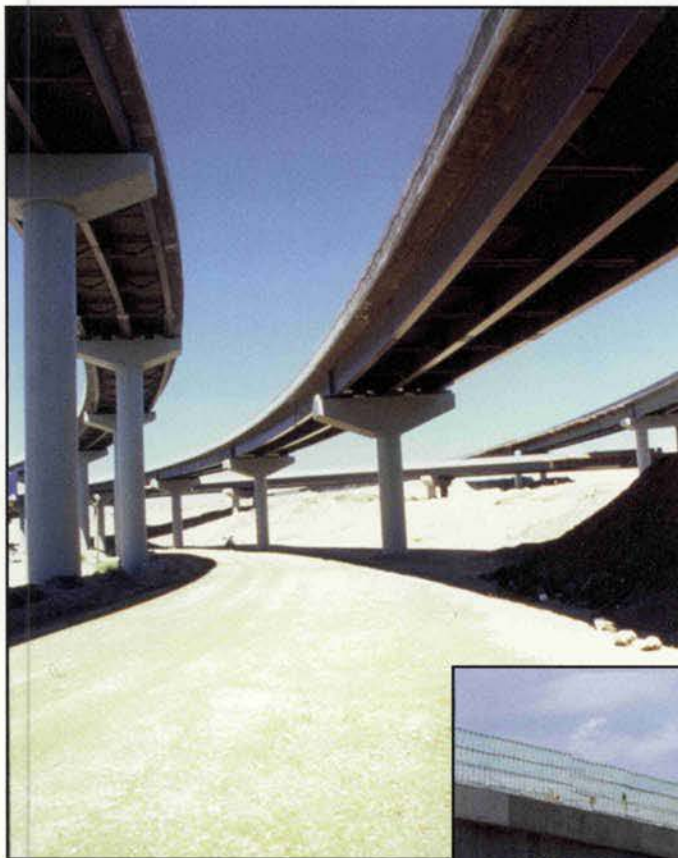
Increasing productivity means finding better ways to move the nation's freight. To that end, FHWA has completed the first-ever freight analysis framework, which looks at freight movement in every mode nationwide. The framework identifies resource needs for efficient and productive freight movement, including consumer goods and military equipment. It's useful to both shippers as well as for future planning purposes.

Productivity at FHWA even extends itself to finding ways to reduce delays in constructing highways. We have sponsored workshops nationwide for states and highway construction firms that outline the best practices for reducing delay and disruption. Typical workshop subjects have included contract administration and design-build construction, a subject that attracted nearly 800 people to two workshops hosted by FHWA in 1999 and 2000. Future workshops are being planned.

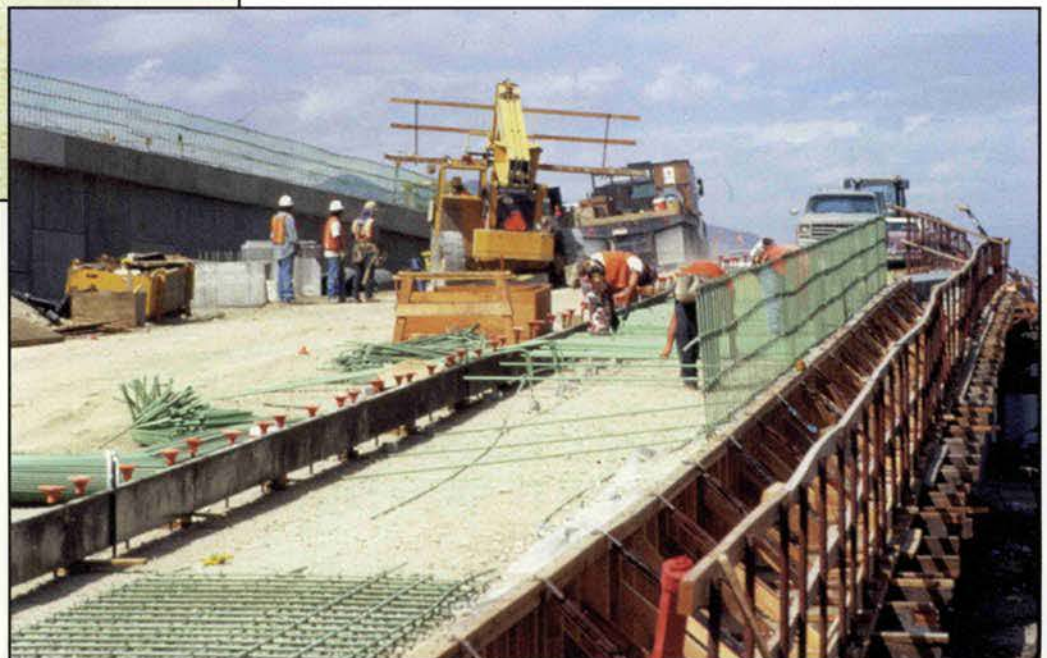


FHWA hosts frequent workshops to update highway engineers on evolving technologies and techniques that will reduce delay and disruption. Above, an FHWA engineer briefs a group about a technique called bridge straightening. The procedure can eliminate the need to replace a damaged bridge member.

Design-build uses a single company to perform both the design and construction of a given project. The technique has become popular because it saves money and gets projects completed in far less time. The traditional method has been to involve more than one firm in the design and construction process.



For example, in the case of the reconstruction of I-15 in Salt Lake City, the state of Utah is up against a real deadline; construction has to be completed by October 2002, in time for the winter Olympic Games. The design-build technique was selected for just this reason for this nearly \$1.60 billion project. Using a single contractor and contract incentives will allow the contractor to complete the 17-mile project by the summer of 2001, well in advance of the 8-10 years traditional construction contracting methods would have taken.



(All three photos this page)
Through the employment of the design-build technique, the I-15 reconstruction in Salt Lake City will be finished over a year ahead of schedule.



Rebuilding I-15 in Salt Lake City required tearing down some of the older, obsolete structure. Because it was designated a design-build project and contained incentive clauses for the contractor, some of the work was performed during the night, which also meant less inconvenience for motorists.

Using specific construction practices can make a difference in our country's productivity. A FHWA demonstration project known technically as *narrow-gap improved electrosag welding for bridges* dramatically cuts the time required to join thick plates of steel together. Actual welding time, for example, of a 2-inch thick, 30-inch wide plate using this process takes just 16-17 minutes compared with 7-8 hours using more conventional techniques.

Improving America's productivity starts with improving the efficiency of moving goods and services. FHWA, as the "custodian" of America's highways, is proud to have had an important role in doing this.