

Pursuing Intelligent Transportation Systems (ITS)



■ Trade and Transportation

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Negotiations continue between management and dockworkers over the next longshore contract for West Coast ports. There's been little word from San Francisco, where the negotiations are taking place, as both sides have remained tight lipped. You can bet that one point of contention is the use of technology at the ports and what it means for union jobs on the waterfront. Regardless of the outcome, the use of technology throughout the supply chain will only grow. California faces significant transportation capacity challenges to meet current goods movement demand and to expand the state's central role in global trade. Technology, including Intelligent Transportation Systems (ITS), will have to be one of the solutions if we're going to keep pace.

ITS has become one of the ubiquitous enablers of global trade. Typical public sector highway ITS programs include traffic management centers, closed circuit TV, permanent and portable dynamic message signs and video detection systems. Recent technology innovations include real-time adaptive signal control, photo detection to replace loop detectors embedded in the roadway, active doppler radar sensors to detect highway delays and Bluetooth travel time and delay reporting using data from mobile devices and moving vehicles. Yet integration of these systems has eluded state and regional agencies because integration has been beyond the scope of the individual ITS initiatives.

Funding the operation and maintenance of installed systems is also a significant challenge for over-stretched agencies. Transportation planning for metropolitan areas has traditionally focused on building and maintaining basic infrastructure to ensure adequate roadway capacity. Strategically using ITS requires agencies to shift focus from planning construction and maintenance of roadways to planning the operations of the surface transportation system. ITS deployment has not always been well integrated with other transportation strategies and programs. Lack of quantifiable information about benefits can put ITS projects at a disadvantage compared with other types of hardscape transportation projects, which have more easily quantified benefits. In addition to developing a workforce skilled in ITS, transportation agencies also need leaders who support ITS.

Historically, California has focused its ITS initiatives on Traffic Management Systems and Traveler Information Systems. But regional initiatives are emerging to extend ITS to demand management and real-time trip routing.

Growing congestion on the rails and parallel highways is forcing locales throughout California to consider ITS solutions that better integrate highway and rail networks.

Locally, the Regional Integration of Intelligent Transportation Systems (RIITS) project, is an upgrade of the countywide traveler information system being developed by L. A. Metro, Caltrans and other agencies throughout L. A. County. The project will use a diverse set of data sources across a number of agencies. Metro is also developing the Archived Data Management System data warehouse to enable development of multimodal products that mirror the USDOT's Intelligent Transportation Systems strategic plan.

The Gateway Cities Council of Governments (GCCOG), a joint powers authority of local jurisdictions adjacent to the San Pedro Ports, is undertaking an ambitious freight-specific ITS integration program. The GCCOG Goods Movement Technology Plan developed a concept of operations and a business plan containing a number of highway-related elements including freeway detection, arterial travel time reporting, queue detection at port gates, truck data collection, truck fleet communications, scheduling systems, performance monitoring, truck parking management, truck platooning, autonomous freight vehicles, truck enforcement, traveler information sharing, emergency notification, weather, and accidents / detours.

Regardless of the initiative, the private sector will need to be an active partner in financing, testing and deployment. That means figuring out what matters most to key stakeholders like rail companies and truckers. For railroads there is a benefit to rail projects that are integrated with highway investments as part of a national freight policy. Railroads serving West Coast ports learned that the international transportation system can become congested when the rail and highway networks and intermodal connectors don't keep pace with the growth in freight. In response, multi-modal business-related proprietary systems have been implemented for global logistics, security of goods, and resource allocation and management. However, proprietary ITS technologies and proprietary data that provide a potential competitive advantage have created barriers to sharing that have slowed industrywide implementation. For its part, the trucking industry needs to improve existing real-time routing and scheduling information to help trucks avoid congested areas and peak travel periods.

California has an opportunity to more aggressively lead ITS network initiatives throughout the state through private-public partnerships and by providing regulations and funding of open-standards technology and data source integration. This leadership role is important since statewide environmental and sustainability policies rely on the continued development of reliable and cost-effective demand management and system management tools that can be implemented seamlessly across modes throughout the state.

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