


**Table 37. Real-time information systems.**

<b>Initiative 36: Real-Time Information Systems</b>	
<p><b>Description:</b> Real-time information systems (RTIS) are a set of technologies and strategies that can help monitor and manage traffic based on real-time traffic information in terms of (1) road safety, (2) congestion, (3) regulatory compliance, and (4) supply chain information. RTIS rely on a computer system that responds to activities/facts (captured data) generating an immediate response (information to user). RTIS have a direct impact on real-time decision making for freight transportation system users and managers.</p>	
<p><b>Targeted mode:</b> All traffic</p>	<p><b>Geographic scope:</b> City, area</p>
<p><b>Type of initiative:</b> Logistical management: intelligent transportation systems (ITS): real-time information systems (RTIS)</p>	<p><b>Primary objective:</b> Improve logistic operations</p>
<p><b>Expected costs and level of effort to implement:</b> RTIS are based on ITS; they require careful planning to consider the freight movement, road network, and land use in the area. The planning process should involve the engagement of stakeholders and the participation of the government (e.g., DOTs). The costs are mainly those associated with the operational cost of the management system, data collection, analysis, and dissemination. There are different RTIS, ranging from low-cost technology installations (e.g., toll and parking facilities) to large-scale networks of systems (e.g., intermodal facilities).</p>	
<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Increase efficiency</li> <li>• Reduce operational costs</li> <li>• Improve reliability</li> <li>• Reduce congestion</li> <li>• Environmental sustainability</li> <li>• Reduce fuel consumption</li> </ul>	<p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>• Require management of data</li> <li>• Require real-life traffic information</li> <li>• Require very high/high capital investments</li> </ul>
<p><b>Examples:</b></p> <ul style="list-style-type: none"> <li>• In the United States: <ul style="list-style-type: none"> <li>– The PANYNJ implemented the Freight Information Real-time System for Transport evaluation (FIRST) (U.S. DOT 2003)</li> <li>– The U.S. DOT implemented the Freight Advanced Traveler Information System (FRATIS) in the Los Angeles-Gateway Region, Dallas-Fort Worth, Texas and South Florida (U.S. DOT 2012b; Butler 2013)</li> <li>– Some 65 travel management centers inform motorists of any incidents that occurs on the highway displaying travel time messages on dynamic message signs during non-incident periods (U.S. DOT 2013)</li> <li>– The Washington State DOT uses the Commercial Vehicle Information Systems and Networks (CVISN) to obtain real-time travel information, monitoring, and enforcement for commercial vehicles (Washington State Department of Transportation 2012; Washington State Department of Transportation 2014b; Washington State Department of Transportation 2014a)</li> <li>– There are 45 active locations (38 states and 7 metropolitan areas) that use the “511: America's Traveler Information Telephone Number System” to obtain a safer, more reliable, and efficient transportation system (Federal Highway Administration 2014)</li> </ul> </li> <li>• In Barcelona, Spain, variable message signs (VMS) display real-time access regulations on multi-use lanes (SUGAR 2011)</li> </ul>	
	
<p>Source: Iowa Department of Transportation 2014</p>	
<p><b>Related alternatives:</b> 1. <a href="#">Vehicle Parking Reservation Systems</a>; 2. <a href="#">Truck Routes</a>; 3. <a href="#">Dynamic Routing</a>; 4. <a href="#">Vertical Height Detection System</a></p>	
<p><b>References:</b> Taniguchi and Thompson 2002; U.S. DOT 2003; Marquez et al. 2004; BESTUFS 2007; CASTLE 2009; Department for Transport 2009; START 2009; C-LIEGE 2010; PIARC 2011; Reynolds 2011; RITA 2011; SUGAR 2011; Ranaiefar 2012; U.S. DOT 2012b; Ben-Akiva et al. 2013; Butler 2013; U.S. DOT 2013; Federal Highway Administration 2014; Iowa Department of Transportation 2014</p>	