Great East Japan Earthquake, JR East Mitigation Successes, and Lessons for California High-Speed Rail, MTI Report 12-37

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Description
California and Japan both experience frequent seismic activity, which is often damaging to infrastructure. Seismologists have developed systems for detecting and analyzing earthquakes in real-time. JR East has developed systems to mitigate the damage to their facilities and personnel, including an early earthquake detection system, retrofitting of existing facilities for seismic safety, development of more seismically resistant designs for new facilities, and earthquake response training and exercises for staff members. These systems demonstrated their value in the Great East Japan Earthquake of 2011 and have been further developed based on that experience. Researchers in California are developing an earthquake early warning system for the state, and the private sector has seismic sensors in place. These technologies could contribute to the safety of the California High-Speed Rail Authority’s developing system, which could emulate the best practices demonstrated in Japan in the construction of the Los Angeles-to-San Jose segment.

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Japan now confronts the aftermath of triple natural disasters—an earthquake of a record 9.0 magnitude, a devastating tsunami, and the threat of radioactive contamination—that have left 11,417 dead, 16,273 missing, and more than 350,000 people struggling to survive at crowded shelters. In an opinion survey conducted by YTN, JoongAng Daily, and the East Asia Institute in March, 76.4 percent of respondents supported the idea of collecting money for, and dispatching rescuers to, Japan. A high-ranking South Korean diplomat in Japanese affairs has suggested that this unprecedented and virtually unanimous positive shift in attitudes toward Japan could be a new milestone for upgrading South Korea-Japan relations.

California High-Speed Rail (abbreviated CAHSR or CHSR) is a high-speed rail system under construction in the U.S. state of California. It is projected to connect the Anaheim Regional Transportation Intermodal Center in Anaheim and Union Station in Downtown Los Angeles with the Salesforce Transit Center in San Francisco via the Central Valley, providing a one-seat ride between Union Station and San Francisco in 2 hours and 40 minutes. Future extensions are planned to connect to stations to San Diego.