UNIVERSITY TRANSPORTATION RESEARCH CENTER

RESEARCH BRIEF

PROJECT TITLE: LESSONS FROM HURRICANE SANDY FOR PORT RESILIENCE

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INSTITUTION: STEVENTS INSTITUTE OF TECHNOLOGY
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New York Harbor was directly in the path of the most damaging part of Super Storm Sandy causing significant impact on many of the facilities of the Port of New York and New Jersey. The U.S. Coast Guard closed the entire Port before the storm hit on October 28, 2013. It was not fully reopened to vessel traffic until November 4th. Even though the waterways were open, numerous terminals and facilities did not resume their operations for several weeks. Interviews of key port stakeholders were conducted to identify the circumstances that led to storm-related impacts and operational recovery in the port. The project reviewed the existing design codes for infrastructure and attempted to identify how building codes could be improved to enhance port resiliency.

There were several generalized principles that emerged from the interviews. They included: (1) safety of life is the prime consideration; (2) strong and redundant communication systems are needed; and (3) current building designs and building codes must be re-evaluated. Most of the major damage to port facilities was related to the inundation associated with storm surge. Since storms capable of having similar impacts will reoccur, building code recommendations were suggested: (1) codes of the two States should include uniform port sections; and (2) the States should adopt ASCE 24 for siting of critical utility and mechanical equipment and for flood resistant design for all port facilities.

Many of the interviewees felt that one of the keys to their success in reopening the port fairly quickly was their ability to improvise and establish ad hoc processes that drew on their prior relationships and trust in one another's professional expertise. Their cooperation and collaboration enabled the port to reopen to waterway activity in a week. The landside continued to be impaired. The same organizing principles/behaviors that worked on the marine portion of the port did not seem to be present for the terminal facilities and other intermodal portions of the supply chain. There were several generalized principles that emerged from the interviews. They included: (1) safety of life is the prime consideration; (2) strong and redundant communication systems are needed; and (3) current building designs and building codes must be re-evaluated. Most of the major damage to port facilities was related to the inundation associated with storm surge. Since storms capable of having similar impacts will reoccur, building code recommendations were suggested: (1) codes of the two States should include uniform port sections; and (2) the States should adopt ASCE 24 for siting of critical utility and mechanical equipment and for flood resistant design for all port facilities.

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Photo Credit: NOAA GOES-13 image of Sandy at 6:02 a.m. EDT Tuesday (Oct. 30)