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Building resiliency into New England's infrastructure

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The 1938 Great New England Hurricane was the most powerful storm to make landfall along the northeastern coastline of the U.S. in the past two centuries—causing destruction in the form of wind, storm surge, flood and fire. Hurricane Sandy is a stark reminder that regardless of size and timing, it will happen again. The magnitude and regularity of dangerous storms here has grown exponentially in recent decades. When considering climate change, sea-level rise and an already fragile New England infrastructure—it is clear that we need to take steps now to protect our infrastructure for future generations.

New England should adopt a "whole systems approach" to better understand the community, environmental, and economic interconnections between infrastructure projects and their surroundings throughout their lifecycle of operation. The Institute for Sustainable Infrastructure (ISI), working with the Zofnass Program for Sustainable Infrastructure at Harvard University, has developed an innovative rating system that fosters this approach. The system, called Envision, evaluates, grades, and acknowledges transformational and collaborative infrastructure projects. It assesses key sustainability indicators over the course of a project's lifecycle to ensure that initiatives are resilient not only today but in the years ahead.

While Envision reduces energy requirements and waste and conserves water, it also addresses the social side of infrastructure projects. For example, the system promotes better stakeholder collaboration and an understanding of local community needs early in the process. This collaboration mitigates negative impacts to community quality of life, and promotes longer term community regeneration and restoration.

A large portion of Envision is devoted to climate change and associated risks, encouraging teams to mitigate climate change impacts while also building in resiliency to short- and long-term natural and man-made risks. By always looking at the project as a whole, the system helps project teams consider broader surroundings and connect a project to both the physical and natural environment around it. For example, even if Boston Logan International Airport's structures are resilient to a storm such as Sandy, it will stop operating if the surrounding roads and railways are flooded. Looking at projects in isolation without a whole-systems approach often causes serious consequences later on.

Taking a whole systems approach such as the one offered by Envision™ can help ensure resiliency for New England residents. History does repeat itself, and the time to act is now.

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