

Questioning Preparedness in Boston

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As a leader in climate mitigation and city “greening,” Boston established itself as an early innovator. But when it comes to climate preparedness, Boston, like other cities, is still trying to figure out what to do. The city faces numerous hurdles to implementing a climate risk management agenda—ranging from a lack of funds, to less than optimum interagency coordination, to uncertainty about which interventions are worth pursuing. Despite these hurdles, Boston has made one important modification in its permitting process that is moving its preparedness agenda forward.

The Boston Redevelopment Authority is in charge of reviewing all building permits for compliance. One of the provisions in the city’s zoning code is Article 80, added in 1996. This article gives the city broad authority to determine whether or not developers have considered possible impacts on assets such as transportation, the environment, and historic resources. In 2013, the outgoing mayor of Boston, Thomas Menino, added a requirement to the Article 80 process mandating all large projects to respond to a questionnaire asking for their assessment of climate-related risks and plans to incorporate resilient design features.

This questionnaire mirrors an earlier amendment requiring developers to consider measures to mitigate greenhouse gas emissions. Boston hopes the new questionnaire will motivate developers not only to build greener buildings, but also more resilient ones.

The questionnaire includes open-ended questions—“Will the building remain operable without utility power for an extended period? If yes, for how long?”—that are meant to force respondents to reconsider building design in light of flood, wind, drought, and heat-wave preparedness. Other questions ask developers to identify which (of an approved set of) strategies they will pursue to reach certain goals.

An example: The questionnaire asks, “What measures will the project employ to accommodate rain events and more rainfall?” Respondents must select from the following options: on-site retention systems and ponds, infiltration galleries and areas, vegetated water capture systems, and vegetated roofs. This helps developers understand mitigation options.

The BRA also allows developers to formulate their own answers, which encourages creativity and allows plausible options that the BRA had not previously considered.

This nonprescriptive approach to regulation has several benefits. First, it forces developers to demonstrate, in writing, that they have tried to anticipate and respond to climate risks. Developers choose which sea-level rise scenario they will base their plans on, how long they expect their building to last, and how the building’s design will enhance resilience during its lifespan.

In other words, developers must acknowledge climate change, and the city can avoid making premature determinations about acceptable levels of risk. Given that forecasting models are evolving and that the uncertainty involved is not likely to decline, abstaining from explicit regulatory commitments has political advantages. Second, it encourages developers to innovate.

The questionnaire approach also allows for two-way learning, as noted above. As of April 2014, the BRA estimated that it had received about 40 questionnaires and through them had identified additional approaches to risk management.

Finally, the questionnaire approach allows for substantial variability, accommodating diverse buildings in different settings. The climate preparedness solution appropriate for one building may not make sense for all buildings, even those on the same block. The Article 80 questionnaire allows each developer to proceed in a way that makes the most sense for a particular property.

Article 80 will not address all of Boston’s climate vulnerabilities. It applies only to new construction, and most of the climate risks facing the city are a product of old buildings that were built when codes were much less strict. Article 80 does not address infrastructure risks or other critical services within the city. However, it allows Boston to build new resilient structures while it wrestles with other questions concerning climate risk management.

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