

Architects Design for an Unstable Climate

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BOSTON – An urban planner, an environmental writer, a hospital manager and an architect shared their visions of how to strengthen the built environment of Boston at the forum “Building a Resilient City: Preparing Our Buildings for Climate Change” on Oct. 4. The forum, sponsored by A Better City, took place at Spaulding Rehabilitation Hospital.

“You have to think about this as a war effort,” said Kairos Shen, chief planner at Boston Redevelopment Authority. He said the cost of addressing climate change will be comparable to that of responding to World War II.

Blake Jackson, sustainability practice leader at TK&A Architects, reminded the audience not to panic. “This building isn’t about fear,” he said, showing a diagram of the Cuisinart Center for Culinary Excellence in Providence, R.I.. The building will potentially face storm surges from two directions and may become a refuge for the nearby community.

Talking about flood maps can raise public anxiety. “It’s probably not doing the right thing if it causes people to panic,” Shen said. He recommended taking a flexible yet pragmatic approach instead of worrying about making perfect plans.

“This was reclaimed land from the sea and the sea is going to want to reclaim it again someday,” said David Burson, senior project manager at Partners Health Care. He described how the new Spaulding Rehabilitation Hospital will withstand weather emergencies due to climate change.

The hospital, which just opened this year, has a ground floor and parking ramp 3.3 feet above the 100-year flood level. Architects used walls and plantings as flood barriers. The hospital will contain a four-day supply of food. And all critical activities – including mechanical equipment, electrical power and emergency services – are above the ground floor.

“The first floor was looked at as a sacrificial layer,” Jackson said as he pointed to a diagram of the culinary school. He said his company adopted a “fail fast, fail cheap” mentality when designing this section of the building.

Alex Wilson, president of Resilient Design Institute and executive editor of Environmental Building News, suggested other construction strategies. He said he believes all new construction in the United States should be built to the hurricane standards now used in Miami. He also recommended using flood-resistant building materials instead of ordinary carpeting and drywall.

In response to a question about retrofitting moderate-income housing, Shen said the Boston Redevelopment Authority does not have the answer yet. The Federal Emergency

Management Agency is about to release new flood maps. “For many people who own property in East Boston and Dorchester, they will now be required to have flood insurance,” Shen said.

Building local modes of transit and connections between neighbors also helps during emergencies. Wilson cited a study of heat deaths in Chicago that showed people die during heat waves as a result of neighborhood isolation, not poverty.

“Climate change has required us to talk to people in public health,” Shen said. “They think totally differently from us.”

Climate change is also requiring Boston residents to create new business relationships. Shen said he believes the public sector should partner with the private sector to create resilient construction and infrastructure for Boston. There has been some discussion of incentives to help building owners move their mechanical systems upstairs.

“We’re looking at whether regulations can help. We’re looking at whether building codes can help,” Shen said.

“Codes are just the bare minimum,” Jackson said. “As a society, we only change the codes when it’s far too late.” He said Boston should follow Venice’s example of innovation in the face of climate-related flooding.

Both Shen and Wilson commented on the importance of routing water safely. After Hurricane Irene, Wilson said, Vermont towns installed larger culverts for routing flood water underneath roads. Shen recommended that the MBTA build temporary plugs for some of the holes that allow water into its tunnels.

“For the last 40 years, the whole project of Boston has been to reconnect to the water,” Shen said. He believes the city will still be able to use waterfront areas – with caution. “There will be interruptions and unpredictability.”