



A new housing project in Boston—dubbed “Bunker Hill” by the design firm Stantec—will use mass timber to revitalize the historic Charlestown neighborhood, which currently features ubiquitous brick construction. Image courtesy of Stantec.

emissions. “Anything we can do to substantially reduce this rate is extremely important,” he says.

Mass timber production creates fewer greenhouse gases than other construction materials. Further, mass timber stores up to 50 percent of its weight in carbon. An analysis of a recent project showed building with mass timber reduced greenhouse gas emissions to one-sixth of those with alternative materials. Similar projects have increased industry interest in sustainably harvesting trees, manufacturing mass timber from the region’s forests, and supporting market development, all contributing to renewed economic and environmental health throughout New England.

Dalzell also points out that constructing with mass timber can accommodate lower floor-to-floor heights, while maintaining ceiling height. “In some instances, this allows for building seven stories in what would otherwise be a six-story building. The ability to construct additional stories is immensely valuable in cities where site limitations and height constraints are the norm.”

# Building with Mass Timber Today for a Zero Net Carbon Future

In 2019, Boston introduced its Zero Net Carbon Zoning Initiative to strengthen existing green building zoning requirements by including a zero net carbon building standard. To further this goal, the Boston Planning & Development Agency (BPDA) and the Boston Society for Architecture launched the Boston Mass Timber Accelerator Program to advance mass timber building practices in the city and throughout New England.

John Dalzell, a senior architect with the BPDA, explains that carbon emissions from building construction and materials account for 23 percent of annual global



The vanguard of Boston's low-carbon construction is 110 Canal St. in the Bulfinch Triangle Historic District. The modern residential building uses mass timber in its construction. Image courtesy of CBT Architects.

### Exploring the Benefits and Feasibility of Mass Timber in Real Time

The Boston Mass Timber Accelerator Program—delivered in two rounds—offers development teams technical assistance and funding to assess and integrate mass timber building practices into their projects. The 10 selected applicants each received a \$25,000 grant, funded through the U.S. Department of Agriculture, Forest Service's Wood Innovations Program. Additional technical assistance and funding support was provided by the Softwood Lumber Board, ClimateWorks Foundation, WoodWorks, and Think Wood.

The projects selected in the first program round included affordable and mixed-income housing and commercial office buildings, ranging from 4 to 11 stories. The second round focused on buildings of at least nine stories, incorporating the successes and lessons from the first round. Within these projects, mass timber is used in primary structure framing, floors, columns, beams, and exposed walls. Several of the individual projects are part of much larger multibuilding developments, setting the stage for long-term mass timber construction in Boston.

“The accelerator program enabled us to reach out early in the design and materials decision-making process. It also drew the attention of individuals and firms that may not yet have projects but are eager to explore what mass timber has to offer and how to incorporate these materials into future designs,” Dalzell says.

Dalzell credits the Forest Service and partners with lending an amazing level of expertise, enthusiasm, and credibility to the initiative. “Forest Service funding and institutional backing was critical to implementing the accelerator program. It is our good fortune to be a part of the constellation of Forest Service partners in advancing building with mass timber.”

### More Information

John Dalzell, AIA

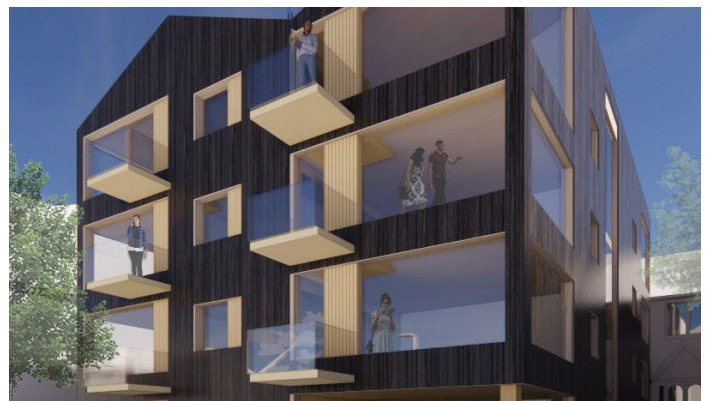
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## FAST FACTS

- The Boston Mass Timber Accelerator Program advances mass timber building practices.
- The program offers development teams technical assistance and funding toward integrating mass timber building practices into projects.
- Selected applicants receive a \$25,000 grant, funded through the U.S. Department of Agriculture, Forest Service's Wood Innovations Program.
- Projects include housing projects and commercial office buildings, all incorporating substantial mass timber elements.



Affordable housing at Eliot Congregational Church will help the underserved community of Roxbury in Boston, MA. The 4-story, 15-unit apartment building will rely heavily on wood and mass timber in its construction. Image courtesy of Leers Weinzapfel Associates.