National Institute of BUILDING SCIENCES

Industry Leadership & Advocacy

Off-Site Construction Council

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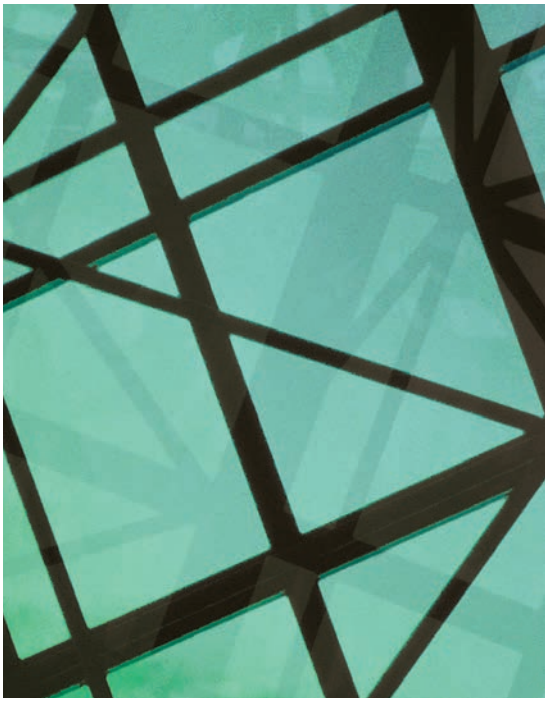

Off-site construction is the planning, design, fabrication and assembly of building elements at a location other than their final installed location to support the rapid and efficient construction of a permanent structure. Such building elements may be prefabricated at a different location and transported to the site or prefabricated on the construction site and then transported to their final location. Off-site construction is characterized by an integrated planning and supply chain optimization strategy.

Internationally, prefabrication and off-site fabrication have provided numerous productivity benefits—specifically in the areas of labor, scheduling, cost, quality and safety. In the United States, the National Research Council has identified the expanded use of prefabrication and off-site fabrication as an important method for advancing the competitiveness and productivity of the domestic construction industry over the next 20 years.

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The U.S. off-site design and construction industry has made significant advances in implementing processes and materials to build and deliver more sophisticated and complex facility types by virtue of system prefabrication, unitization, modularization and panelization. More and more owners are turning to off-site methods for multi-story wood construction, steel-framed structures, healthcare facilities, educational structures and large-scale military projects. As an industry, however, owners, architects, engineers and contractors up until now have lacked an unbiased source for evaluating the applicability and potential benefits for use of such methods; for determining where and when fabrication is appropriate; and for identifying the range of choices inherent in integrating and collaborating with fabricators.

In 2013, the National Institute of Building Sciences established the Off-Site Construction Council (OSCC) to serve as a research, education and outreach center for relevant and current information on off-site design and construction for commercial, institutional and multifamily facilities.

The OSCC:

- Provides a neutral forum for off-site construction interest groups across the industry to share information and solidify the expert base of the off-site industry sector;
- Fosters partnerships and integration of owners, industry designers (architects and engineers) and builders (fabricators and contractors) to increase the productivity of the construction sector and promote knowledge sharing across the building industry disciplines;
- Establishes a mechanism for industry and academia to work through knowledge transfer partnerships to advance off-site methods and practices by identifying gaps in research; research and development to commercialization of off-site systems; and promote, collect and disseminate findings and best practices in off-site construction;
- Utilizes the partnerships identified above to achieve standards for off-site construction sectors in connection with other Institute councils, promoting an integrated approach to building science/technology delivery for the construction sector.

The purpose of the OSCC includes but is not limited to the following focus areas:

1. Regulations and Standards: The OSCC will review codes, standards and regulations to assure the recognition of off-site and alternative construction techniques as viable methods for meeting current performance requirements.
2. Best Practices: The OSCC will compile and maintain a portfolio and database of successful off-site construction case study projects and project performance indicators for building types, including military, healthcare, education, multi-family and administrative markets. Such information is available on the WBDG Whole Building Design Guide® (www.wbdg.org).
3. Benefits/Challenges: The OSCC will develop a mechanism to gather data comparing the generation of construction waste in off-site vs. traditional construction processes; data quantifying schedule reductions associated with off-site construction and other key performance indicators in comparison to traditional onsite methods; and make recommendations as to project facility types or components of facilities that would benefit from off-site fabrication.
4. Research: The OSCC will identify research areas, funding sources and facilitate research teams between universities, consultants and industry partners through knowledge transfer partnerships to remove barriers toward more productive means of building. The OSCC will seek out opportunities for public dissemination of research findings through industry and peer-reviewed academic publications and presentations. Results can be shared through the WBDG Whole Building Design Guide® (www.wbdg.org) and the Building Research Information Knowledgebase (www.brikbase.org).
5. Dissemination: The OSCC will initiate an outreach plan with education programs, seminars, workshops, continuing education (CE) credits for industry members to become knowledgeable and trained in the various processes and products of off-site design and construction.

The OSCC works across building sectors to have membership representation from the diverse commercial, institutional and multifamily interests with a stake in off-site construction. ■

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