

The Future of Professional Practice—Maximize Technology Capability and Collaborate

Contributed by the AIA Knowledge Resources Staff

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SUMMARY

Two presentations at the AIA Future of Professional Practice Conference, December 2–4, 2007, focused on different subject matters but presented similar messages. The presentations, Transportation Architecture of the 21st Century and Building Information Modeling (BIM) Best Practices, Best Results, were presented by seven people—three transportation architecture experts and four experts on technology changes in the architecture profession.

Although the two presentations addressed different aspects of the profession they had a similar message—there is value in collaboration with other building users and computer modeling tools. The presenters infer that design value is added through a multidisciplinary approach that maximizes software capabilities.

THE FUTURE OF TRANSPORTATION ARCHITECTURE

Transportation architects in the United States have started to use modeling technology to reverse-engineer some of Europe's more successful transportation projects. What elements can be attributed to the success of a highly trafficked, safe, and beautiful Metro stop in Paris? Transportation architects are trying to answer questions like this through the advancement of modeling software.

Transportation architects use SketchUp, Rhino, and Revit® to help visualize spaces and construction methods. Train designers use new software tools like Catia and Maya® to design trains with elegance and innovation. One presenter said, "One of the problems with public transportation in America is a lack of innovation in the design of trains; when compared to Asia and Europe we are way behind in train car design." New software is enabling U.S. train designers to catch up and beat the curve.

CHANGES IN ARCHITECTURE PRACTICE

BIM Best Practices, Best Results presenters pointed to the use of BIM for construction optimization.

Construction optimization can be achieved through early phase design decisions and a total model buildout that includes heating, ventilating, and air-conditioning (HVAC); mechanical; electrical; and plumbing systems.

Kristine K. Fallon, FAIA, explained how owners and architects use BIM as a design and facility optimization tool. Successful use of BIM changes the typical project phases of schematic design, design development, and construction administration to design optimization, construction optimization, and construction orchestration. Through the use of BIM the owner can optimize the facility's life-cycle value and improve project delivery.

Steve Hagan, FAIA, said BIM is most useful if critical design changes are identified early in the modeling process to save time and money. Hagan reiterated a common sentiment, "You can't see the results unless you take the step forward and start using BIM." Adding to that, presenter Tony Rinella, Assoc. AIA, suggested in-house training programs to teach the philosophical level of BIM and the change in project management that accompanies it before teaching the technical aspects of a software program.

Changes in project implementation demand a series of questions. One of the prominent concerns of firms using BIM surrounds the potential liability associated with the transfer of digital documents. Suzanne H. Harness, Esq., AIA, managing director of contract documents at the AIA, discussed two new AIA contract documents intended to meet these concerns.

In 2007 the AIA released two documents to meet the demands of digital data. The first, *AIA Document C106™ – 2007, Digital Data Licensing Agreement*, is a two-party agreement that creates a license to use digital data. *AIA Document C106™ – 2007* establishes an agreement between the architect and a former owner if a former owner wants to use digital documents to renovate the building. The second is *AIA Document E201™ – 2007, Digital Data Protocol Exhibit*, an attachment for any AIA design agreement. *AIA Document E201™ – 2007* is a

separate document that sets protocols when digital data is used. *AIA Document E201™ – 2007* has priority over the general contract.

RESOURCES

More Best Practices

The following AIA Best Practices provide additional information related to this topic:

- 10.04.01 Respecting Software Copyright
- 10.04.04 BIM Creates Change and Opportunity
- 10.04.05 Building Information Modeling: Potential Legal Exposures

For More Information on This Topic

See also “Virtual Design and Construction: New Opportunities for Leadership” by James R. Bedrick, AIA, *The Architect’s Handbook of Professional Practice, Update 2006*, p. 33.



See also the 14th edition of the *Handbook*, which can be ordered from the AIA Bookstore by calling 800-242-3837 (option 4) or by email at bookstore@aia.org.



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Key Terms

- Practice
- Information management
- Project management automation
- Building information modeling
- Contract documents

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