

## RING OUT THE OLD, RING IN THE NEW

BY JOHN CROSS, P.E., LEED AP

A look at several construction trends to expect in 2012 and beyond.

**AS BUILDING ACTIVITY** dipped to historic lows, 2011 was a year that the construction industry would just as soon forget. Regretfully, as discussed in last month's column, 2012 and 2013 do not look much more promising from the perspective of construction volume.

However, that does not mean that the domestic design and construction industry is mired in a lost decade. Construction activity may be stuck in a trough, but a variety of trends are emerging that will drive construction economics for decades to come. The design and general and specialty contractor firms that seek to understand these emerging trends today—and adapt their business models to them—are the firms that will prosper when construction activity rebounds.

### Collaboration

A new project delivery methodology with great promise in enhancing productivity, lowering cost, improving quality and accelerating schedules seems to surface every two to three years, then recedes into the woodwork as just one more way to deliver a project. Integrated project delivery (IPD) is the delivery method *du jour*. Will it be the methodology that finally supplants design-bid-build? No one knows for sure, but it is clear that the marketplace is demanding greater collaboration between the various design and construction entities working on a project. The silos of the past will not be tolerated in the future. Regardless of whether the flow of communication is formal or informal all project entities will be expected to not only complete their portion of the project, but also contribute their expertise to the entire project team from design initiation.



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### Construction

Project demographics will shift from publicly funded projects to private or public-private partnership funded projects as a result of budget pressures. Construction activity will accelerate most rapidly in mid-range cities, with less emphasis on high-rise (>15 stories) construction and more emphasis on mid-rise projects (three to 15 stories). At the same time, the natural result of the impact of the recession is an aversion to assuming the financial risk on the part of owners, developers and financial institutions. Not only will project delivery models change in response to a greater demand for collaboration, business models will also change, incorporating collaborative delivery methods as a means of minimizing risk to owners, developers and financial institutions while sharing risk and reward equitably among project team members.

### Coordination

BIM, IFCs, CIS/2, APIs, IDMs, MVDs, interoperability—the glossary of buzzwords continues to grow, but what is evident is that the industry is on the cusp of seeing project information flow seamlessly between project team members. No longer is the conversation just about how to transfer data from one application program to another, but rather how the communication of necessary project parameters and intelligence can flow between design and construction processes. The discussion is morphing from what information can be electronically *provided* to other project entities to what information can be *extracted* by other designers and constructors. The conversations about the risks taken by designers and constructors in electronically sharing models and information will be replaced by the marketplace recognition that data-enabled projects are faster, less costly, safer and less risky than traditionally segmented design and construction processes.

### Consumption

The motivational forces driving sustainable design and construction will change. No longer will the impetus be simply to gain a LEED rating for a project. New codes and standards already are emerging that will define minimal environmental requirements for buildings. These will be adopted in numerous jurisdictions signaling public support for the idea that buildings should be built in a manner that will allow future generations to use and enjoy the same resources we have today. However, those

advocating sustainable construction will continue to struggle with defining a “currency” for sustainability. The cost of a project can be measured in dollars, the schedule in days, but how can the greenness of a building be measured? Some feel that life cycle assessments (LCAs) are the answer, but even LCAs provide little guidance in assessing various impact categories against a common criterion. Is carbon footprint more critical than water consumption? Is energy consumption a bigger concern than land usage? There will be continued debate over whether the pursuit of sustainability is an analytical or a common sense based process.

### Conservation

Driven by the sustainability movement, the growing preference for rehabilitation and reuse as opposed to new construction will have a surprising corollary: The design process for new buildings will begin to take into account the flexibility of the structure to be modified or repurposed for future, as yet to be determined, applications.

### Competition

Lacking the flexibility of small firms or the marketplace momentum of large firms, more mid-size design, construction and specialty contractor firms will close their doors as a result of the extended economic downturn. Many of these closures will occur as the market begins its rebound as cash reserves and bonding capacity have been consumed. The result will be greater stratification in the competitive marketplace and a new business model featuring smaller firms pursuing projects as teams.

### Competency

Discouragement (construction unemployment rates in excess of 20%), uncertainty (a history of boom and bust cycles)

and retirement (construction-experienced baby boomers) will lead to a shortage of skilled designers and construction workers as the building market recovers. The result will be a greater emphasis on improving construction productivity through technology, modularization and the migration of as many on-site tasks to off-site fabrication as possible.

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Ring out the old, ring in the new,  
Ring, happy bells, across the snow;  
The year is going, let him go;  
Ring out the false, ring in the true.

—Alfred Lord Tennyson, 1850

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