



2015 OWNERS SURVEY  
**REPORT**

**CMAA**



*On the Cover: Salt Lake City's Net Zero Energy Public Safety Building — CM: MOCA, 2014 CMAA Project Achievement Award  
Above: Eskenazi Health, Indianapolis, IN — CM: Jacobs Project Management Co., 2014 CMAA Project Achievement Award*

**In 2010, CMAA published its Eleventh Annual Survey of Owners, providing a dramatic portrait of capital project and program owners severely impacted by the financial crisis of 2007-2008 and the ensuing Great Recession.**

That survey portrayed an industry vigorously cutting its costs by reducing staff in an environment of shrunken budgets and delayed or cancelled projects.

In 2015, CMAA has revisited these topics in a new owners' survey, our first since the milestone findings of 2010. This study included a new online questionnaire, together with surveys of industry media reports published in recent months, focusing on the major challenges and concerns on owners' minds. In addition to hiring and general business conditions, the survey sought to identify the major problems perceived by owners and the degree of their adoption of key new technologies.

The survey and associated research were conducted in July and August 2015.



I-495 Express Lanes, Virginia — CM: Fluor–Lane, LLC, a joint venture of Fluor Enterprises, Inc. and The Lane Construction Corporation, 2013 CMAA Project Achievement Award

## BOUNCING BACK

The strongest impression from the new survey is of an industry on the rebound. Consider these contrasts between 2015 and 2010.

### IN 2010:

- » More than 50 percent of owners had dramatically cut their head count in the preceding two years, including 18 percent who had cut their staff by one-fifth or more.
- » Nearly 60 percent of owners said they were not hiring.
- » 28 percent of owners said they expected never to resume hiring.

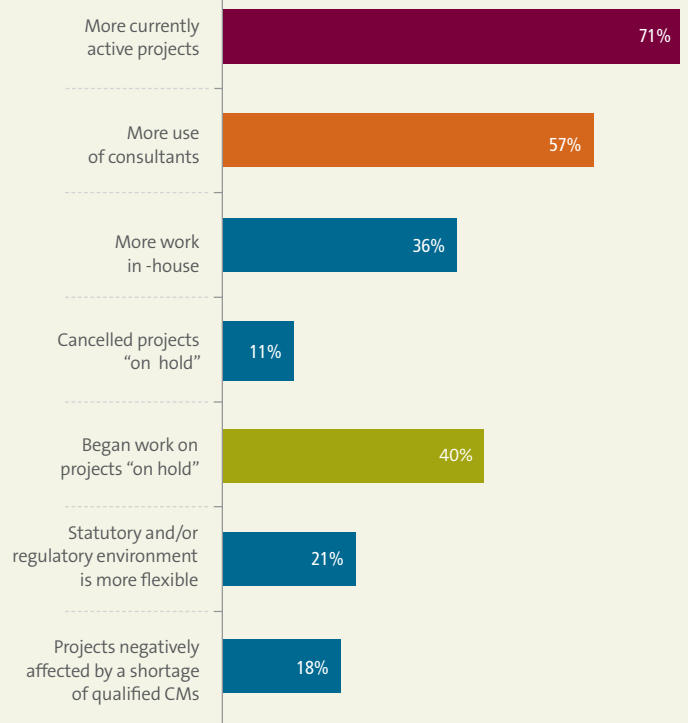
In the 2015 study, none of the owner organization contacts responding reported that they are currently cutting staff or had plans to do so in the near future, and some 57 percent indicated plans to add new hires within six months to a year. *(Caution: The sample size for this question is small, consisting of seven “principal contacts” at CMAA owner organization members. All seven respondents were in public or quasi-public agencies.)*

A second questionnaire, distributed to all individual CMAA members affiliated with an owner organization, drew 176 responses. (The 2010 survey had 300 responses, from non-members of CMAA as well as members.)

This questionnaire asked respondents to compare today’s circumstances to five years ago. It produced these highlights:

- » **71 percent reported that “we have more currently active projects.”**
- » **57 percent said they are making more use of consultants today.**
- » **40 percent said “we have begun work on projects that were previously on hold.”**

### Five Year Comparison





Akutan Airport, Akutan, AK — CM: Kiewit Infrastructure West Co. in association with PND Engineers, Inc., 2013 CMAA Project Achievement Award

## PERSISTENT CHALLENGES

The survey asked respondents to identify factors in the business environment that were “a major challenge” for them right now, along with others that were “important but secondary,” and “not a problem right now.”

Change orders led the way as a major challenge for owners. Both the number and cost of change orders were ranked high.

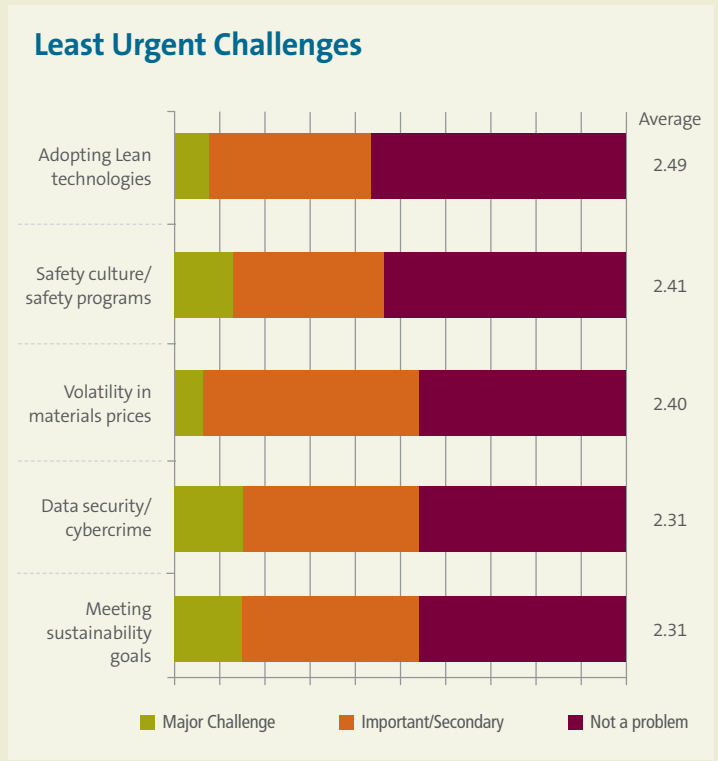
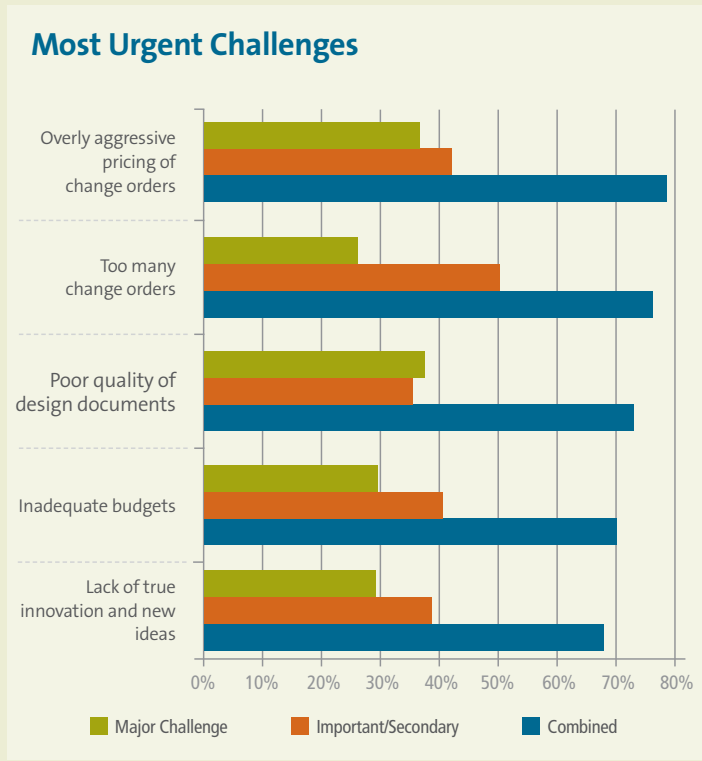
However, looking exclusively at the items rated as major challenges, the poor quality of design documents tops the list. This concern was rated as a major challenge by 37.4 percent of respondents.

This finding is consistent with a key item in the 2010 study, i.e., 34 percent said the quality of design documents had declined in the preceding two years, and 33 percent made the same complaint about construction documents. For context, as long ago as the Fifth Annual Survey of Owners (2005), more than 70 percent of respondents had cited a decline in the quality of design documents.

The factors rated by respondents as “not a problem” also present some interesting viewpoints. The single factor scoring highest as “not a problem” was adopting Lean technologies (56.5 percent), followed by safety culture/safety programs (53.7 percent).

It is not clear from this survey whether the responses indicate that owners feel they have these matters under control, or simply that they do not perceive them as problems. Some additional light on this question may be shed by the fact that 45.9 percent of respondents said concern about data security and cybercrime was “not a problem right now.” This finding flies in the fact of the very extensive publicity surrounding data hacking and other cybercrimes in U.S. industry in the recent past.

Weighted average values were calculated based on a scale of 1/a major challenge to 3/not a problem. Thus, lower weighted average numbers indicate a more pressing challenge.





Etihad Towers, Abu Dhabi, UAE — CM: Hill International, 2012 CMAA Project Achievement Award

## TECHNOLOGY PENETRATION

The survey presented owner personnel with a dozen technological tools that have been widely publicized or promoted in the industry recently, and asked them to report whether they:

- » Have used the tool on a project in the last five years.
- » Are currently using the tool on a project.
- » Plan to require the tool on a future project.
- » Have no experience yet with the tool.

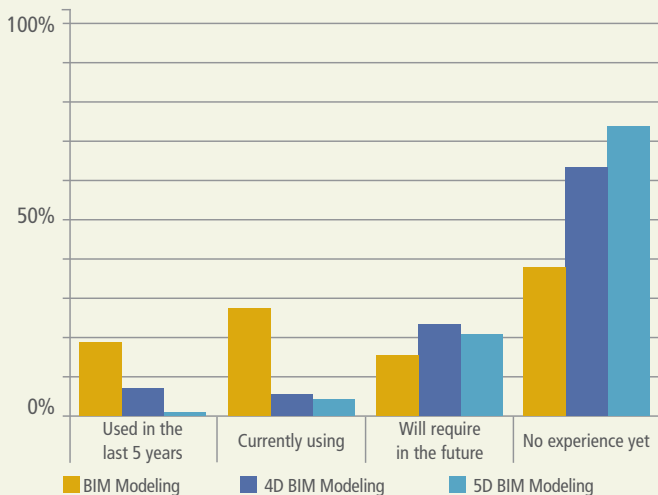
While a majority of respondents indicated having experience with BIM, 4D and 5D BIM (adding schedule and cost data to the BIM model, respectively) have not yet penetrated the market to the same

degree. More than half of respondents, 63.6 percent, said they have no experience yet with 4D BIM, and 74.1 percent gave the same answer concerning 5D BIM.

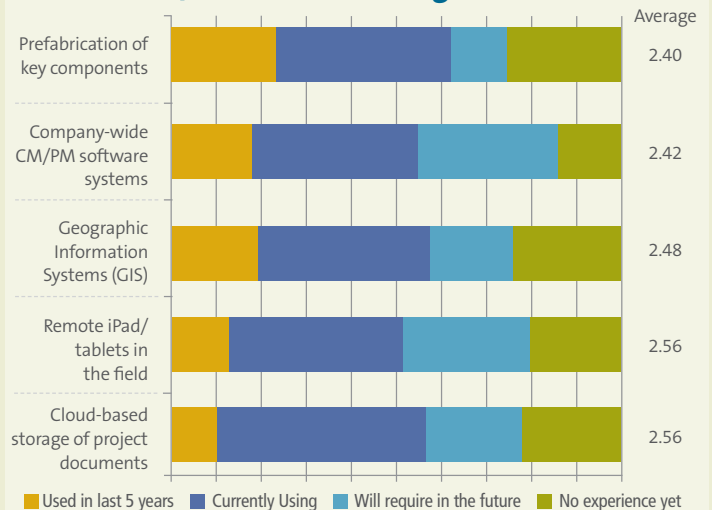
The only technology with lower reported experience levels is use of unmanned aerial vehicles or drones, with 75 percent reporting no experience.

Calculating a weighted average for these technologies on the same basis as for the previous question enables us to estimate the five technologies enjoying the greatest usage/familiarity in the industry right now:

### BIM Modeling Usage



### Most Used/Familiar Technologies



“For some reason, we tend to communicate less even though each of us has a PC/phone on our hip.”

## OWNERS' VIEWS OF THE FUTURE

Another section of the owner survey posed this question: Five years from now, what do you think will have changed the most in the construction management industry?

This was an open-ended question soliciting comments from respondents. A selection of comments follows.

- » *Software will always be changing. However the biggest change that I see coming over the next five years, and it has already started to shift in a forward momentum in some select areas, is the change in the way project & construction management wants to conduct business (especially in public works contracts)... The old way of managing projects (via back door deals & political corruption) is slowly decreasing. New younger leaders that have higher moral standards on project management, and less appreciation for former military and political affiliation, are starting to emerge. New leaders for a new tomorrow is long overdue in the CM industry... CMAA is helping breed new leaders alongside the existing old boy network system. Over the next five years I hope the torch will be passed in a more transparent manner...*
- » *Availability of skilled, experienced people and the proliferation of processes limiting ability to be flexible project to project. Not saying processes are bad, but the more processes that are adapted, the more rigid becomes the framework within which you are required to operate. Any change becomes more challenging because you have to change the process before you use the change.*
- » *The use of alternate delivery methods. The potential for owners to require and pay for an intensive effort during the preconstruction services period in which the owner, contractor, designer and construction management consultant work very closely to eliminate errors, omissions, conflicts and duplications in contract documents so that a "no changes" (except for differing site conditions, owner directed changes and major design errors [and detailing errors or dimensional errors would not be considered major]) contract can be executed with the civil contractor. Pay more up front and save money during construction.*
- » *Lack of skilled labor will still be an issue. Too many owners executing projects concurrently. More use of integrated delivery methods.*
- » *Increased proliferation of lawsuits, from problems caused by not having state-licensed professional engineers and architects involved in design and construction. Industry pushes down responsibility and calls it progress, hiding behind technology as much as possible, until stopped by force. That force will be lawsuits.*
- » *Lean construction techniques will be normal for high performing general contractors and subcontractors. Design-build will be the most used delivery method.*
- » *There will be more usage of integrated information management systems to track projects in real time.*
- » *Less state employees, more consultants, less paper, more tech (at least I desperately hope)*
- » *Restrictive environmental requirements and the associated cost and complexity added to project delivery.*



Mount Nittany Medical Center Lance and Ellen Shaner Cancer Pavilion, State College, PA — CM: Alexander Building Construction Co., 2013 CMAA Project Achievement Award

***“Tougher economic challenges will require innovation in managing an increase in disputes and claims. This trend showed significantly in the recent (last 5-7 years) economic downturn.”***

- » *Labor: New construction techniques are changing the way construction is performed. In 5 years we will not depend so much on the skilled labor workers to complete a construction project.*
- » *Provide a greater emphasis on culture changes, better controls on budgets, schedules, getting contractors to share more risk in getting projects completed with minimal change orders. More CM leading best practices in the field.*
- » *Keeping up with codes and new systems. We need to try keeping things more simple. Looks like we keep making our lives more difficult with more complex systems and codes. When does it stop and reverse?*
- » *Going from the paper to all digital. It is rapidly changing now and in use on large projects, but I think you will see it on the majority of all construction projects.*
- » *Requiring contractors to be more creative on design-build proposals but at competitive prices.*
- » *Five years from now the thing that will have changed most will be the use of BIM to determine the need, function, constructibility of projects through total visual realization.*
- » *Lack of federal action on raising gas tax instead of budget gimmicks will cripple transportation infrastructure program.*
- » *Tougher economic challenges will require innovation in managing an increase in disputes and claims. This trend showed significantly in the recent (last five to seven years) economic downturn.*
- » *Unfortunately, if we keep trending as we have for the past 10 years, we will be more mobile but people will communicate even less. We currently spend a lot of money just to get our design team and CM to communicate in a separate “team setting.” It’s money well spent but I’m afraid that the lack of detail on the plans and in the specs will continue to fall due to the way the younger generation has learned as a “norm” and we will be swamped with even more RFIs. For some reason, we tend to communicate less even though each of us has a PC/ phone on our hip.*
- » *BIM will be used on all projects, regardless of size. Public sector will see benefits of alternative delivery methods and will start using them.*
- » *Implementing BIM for the life of buildings and facilities and integrated software for project management and design/construction.*



50 United Nations Plaza, San Francisco, CA — CM: Jacobs, 2014 CMAA Project Achievement Award

## THE SURVEY FINDINGS IN CONTEXT

Many national and regional business media outlets, along with leading consulting firms, have joined in reporting an upturn in the construction industry in recent years.

“Construction companies are busy, and they are busier than they were last year at this time,” said FMI Corporation in its Third Quarter 2015 Nonresidential Construction Index report. FMI added that “the recovery for construction post-recession has been gradual, but that gradual change has opened up a rift between the need for work and the need for more workers.”

FMI has also projected that U.S. construction volume will grow by five percent in 2015.

*Engineering News-Record*, reporting in early 2015 on its Construction Industry Confidence Index, observed that “The construction market has enjoyed steady growth for several years. Most industry executives believe this growth will continue through 2016....But one sector that has been leading the recovery, petroleum, has suddenly hit a roadblock as plummeting oil prices have resulted in project postponements.”

“Survey respondents generally believe the overall market will continue to pick up steam over the next 18 months,” *ENR* adds. “For example, 60% say the current market is growing, up from 55% in the last quarter, and 67% believe the market will be in growth mode in three to six months, up from 61% in the fourth quarter.”

The Construction Financial Management Association’s CONFINDEX, regularly surveying more than 300 industry executives, was 1.6 percent higher in June 2015 than in the previous June. CFMA

commented, “Construction firms around the nation are generally busier. Nonresidential construction value put-in-place is up nearly nine percent on a year-over-year basis. Construction employment is up by 4.5 percent over the past year and the construction worker unemployment rate is now below seven percent.”

Similarly, Marketwatch.com reported in September 2015 that “the U.S. construction sector is heating up, turning it into a growth engine for the economy.” The report also cited U.S. government data: “Outlays for U.S. construction projects rose 0.7 percent in July, to a seasonally adjusted annual rate of \$1.08 trillion, the highest level since May 2008, the Commerce Department reported.”

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The Commerce Department also reported that construction was up 13.7 percent over the past year, and revised its earlier growth estimates for both June and May to show larger gains than previously estimated.

Sage Software, citing data from the Associated General Contractors, reported that four out of five contracting firms expect the construction market to grow through 2016.





Louisiana TIMED Program — CM: Louisiana TIMED Managers, Parsons Brinckerhoff, G.E.C., Inc., and Michael Baker International, 2013 CMAA Project Achievement Award

*“The overriding issue in the industry is the need for people, not just on the craft worker side but also on the professional, management and technical side.”*

Construction industry growth, of course, does not automatically translate into more business for CMs and PMs. In its Top 100 Professional Service Firms report in June 2015, *ENR* noted that “many CMs and PMs are seeing the market as a mixed bag, with owners having to be convinced that CM services are worth the price and that experience and expertise, not price, should govern their hiring choices.”

*ENR* also noted many owners are shifting to staff augmentation to reduce the cost of their CM and PM activities, observing, “Many CM firms say this focus on cost is a hangover from the market recession, where low-ball bids were common and owners came to expect more for less.”

*ENR* reported that domestic revenue from CM/PM fees rose only 1.4 percent in 2014. This followed a similarly modest increase in 2013.

Concern about up-front costs, then, remains a key concern for many owners. So is the workforce available to handle increasing project workloads. AGC has reported that 25 percent of all firms have had to turn projects down due to a shortage in labor. About three-quarters of all firms report having a difficult time finding skilled laborers, and more than 60 percent say they are also having difficulties filling “key professional positions.”

## CONCLUSION

Several overall conclusions are supported by this survey. One is that the construction industry, in general, is growing and is expected to continue to grow, albeit not as quickly as many participants would like.

Secondly, growing business opportunities are shining a light on the potential workforce shortages facing the industry in the near future. Attracting key personnel, training them, and retaining them remain front-of-mind concerns.

Finally, many of the most vexing concerns of today’s owners continue to fall into the category of “people” issues: Communications, leadership, problem solving. Construction is hardly alone in this, of course, but as current trends continue into the future, effective “soft skills” will only become more critical.

“The overriding issue in the industry is the need for people, not just on the craft worker side but also on the professional, management and technical side,” says Wayne Crew, executive director of the Construction Industry Institute. One of CII’s research projects is to determine whether there is a demographic cliff where craft workers may begin to retire in such numbers as to hurt the industry.

Although respondents to this survey widely indicated they weren’t worried about data security and cybercrime, industry news reports indicate they probably should be more concerned.

“Experts say cyberattacks can cause extensive economic damage to construction firms, and not only on top secret government projects,” *ENR* reported in May 2015. “But the experts say that few companies report incidents, and few know enough about the risks to mount a suitable defense.”

Firms shouldn’t be complacent about their own levels of risk: “Even if a firm’s network lacks data of value to hackers, the network still can provide a vector to access the networks of the owners, contractors and other firms on a project,” the *ENR* report stated.

Industry media reports generally reinforce the impression that some new technologies, such as drones, are making only small inroads in the overall industry environment.