

JULY/AUG 2021

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CAPITOL HILL UPDATE

Main St. Efficiency Act | Davis-Bacon | COVID Reimbursement | School Retrofits

SMACNA Endorses Main Street Efficiency Act to Jumpstart Small Business Energy Efficiency

SMACNA joined leading business and efficiency groups in supporting small business efficiency upgrade incentives that will be simplified with the **Main Street Efficiency Act of 2021**, sponsored by Congressman Peter Welch (D-VT) (H.R. 4903) and Senator Catherine Cortez Masto (D-NV) (S. 2665), with Sen. Jeanne Shaheen (D-NH) and Sen. Kirsten Gillibrand (D-NY) joining as cosponsors.

The Main Street Efficiency Act features the following:

- Small businesses can receive zero-cost equipment and energy efficiency upgrades, which will help them recover from the economic shut-down by lowering their utility bills immediately and well into the future.
- The ecosystem of DSM energy service firms, HVAC contractors, sheet metal workers, and other skilled and unskilled workers, representing a workforce of approximately 1.3 million across the nation, will grow and thrive.
- The health, safety, comfort, and productivity of occupants of small business commercial spaces will be improved.
- The program will help the overall economy to recover by lowering energy grid demand and increasing energy productivity.
- It will help states meet increasingly aggressive goals for energy demand and carbon emissions reductions.

The legislation will receive close attention and activity when Congress returns in September with good odds it will be added to a developing energy efficiency incentive package gaining support on Capitol Hill.

SMACNA Effort Helps Add Davis-Bacon for \$52 Billion Chip Plants Bill, S. 1260

SMACNA contractors and chapter executives stepped up to express loud and strong support of Michigan Senator Gary Peters' amendment to add Davis-Bacon Act coverage to S. 1260, The Endless Frontier Act, bipartisan legislation that would fund science and technology efforts to make the U.S. more competitive with China and others. By including prevailing wage protections in S. 1260, on a bipartisan vote of 58-42, the Senate surprised most advocates and opponents of Davis-Bacon with the margin of victory. Eight GOP Senate votes supporting construction workforce training quality, public project safety and productivity provided a comfortable victory.

S. 1956, "Manufacturing Clean Energy and Energy Efficiency Act," Boosts Industrial Efficiency

SMACNA also endorsed a major bipartisan industrial efficiency package recently introduced by Senators Joe Manchin (D-WV), Lindsay Graham (R-SC) and John Hickenlooper (D-CO) and it was referred to the Committee on Energy and Natural Resources. S. 1956 will help America's manufacturers be-

come far more energy efficient and productive by boosting energy retrofits, offering technical assistance to small and medium-sized manufacturers, facilitating development of a national manufacturing plan with the DOE, and by offering state leadership grants for efficient manufacturing.

SMACNA Endorses H.R. 1993, The Energy Efficiency Public Buildings Act

Recently SMACNA endorsed H.R. 1993, introduced by Rep. Nydia Velazquez (D-NY), and cosponsored by seven other representatives. Rep. Velazquez has worked with SMACNA's New York City Chapter, which also endorsed this important legislation. The bill makes vitally important and significant investments for deep retrofits in highly valued public structures, making them far safer with the indoor air quality systems that pandemic-era buildings should require. H.R. 1993 would also help lower carbon emissions and energy waste while expanding registered apprenticeships and skilled construction jobs by providing \$4 billion over four years to fund deep energy efficient retrofits in public buildings. Public libraries, hospitals, community-based non-profits and other state and local government buildings would be eligible to receive critical funds needed to save energy costs, transition toward renewable energy sources, and improve the safety and health of everyday building occupants.



FROM THE PRESIDENT

Angie Simon

COVID-Related Contractor Labor Reimbursement—Section 3610 Program

Part of the American Rescue Plan was an extension of an authority deemed vital to the government contracting base. Congress had earlier provided a short-term extension of Section 3610 authority to only March 31, 2021. Section 3610 has been viewed as essential for many contractors because it effectively saved the companies from either having to lay off highly skilled workers who couldn't perform because of lack of facility access or go out of business trying to pay them.

SMACNA Endorses School Construction and IAQ Retrofit Bill

SMACNA has repeatedly reached out to Capitol Hill to express support for S. 96, "The Reopen and Rebuild America's Schools Act," sponsored by Senator Jack Reed (D-RI) and 27 cosponsors. S. 96 would invest more than \$100 billion in needed school building grants and \$30 billion in bond financing for public school repairs and energy efficient building retrofits. In the House, Rep. Bobby Scott, Chairman of the Education and Labor Committee (D-VA), has introduced an identical bill, H.R. 604, which has 155 cosponsors and is awaiting action by the House Education and Labor Committee and the House Ways and Means Committee. ▼

Guiding Resources

First it was the supply chain, then lumber prices, then steel...and now the COVID-19 Delta Variant is set to add a lot of uncertainty into the third and fourth quarters of this year. The ripple effects of the pandemic are far reaching and apparently not yet over.

Understanding the dynamics driving change in the economy during this phase of the pandemic is becoming a full-time job for many of us. For the past two months, I have had the opportunity to visit a number of chapters and discuss current events with contractors (It's great to see people face-to-face again!). I have gotten the sense that we all have steady work, but we are not as busy as we were in the earlier part of the spring/summer.

Momentum has pulled back slightly due to several economic reasons including supply disruptions, rising costs of construction materials, fear of inflation, and a general hesitancy to invest at a time the world is reacting to the COVID-19 Delta Variant.

As I write this, there is general anticipation that the Senate's infrastructure bill will be reconciled and voted on September 27, while the \$3.5 trillion budget framework is still to be debated. The infusion of spending would be welcome for the growth opportunities it would bring.

The timing couldn't be better as nonresidential construction costs have increased 23.4% compared to a year ago this time, according to Anirban Basu, CEO, Sage Policy Group. All of us were wondering about the steel market, and SMACNA responded with a deep dive into some of the causes.

SMACNA continues to monitor both economic and legislative activities, sharing their findings through a variety of valuable resources including their daily news email — Executive News Brief, timely webinars, Member Updates and Chapter Leadership News.

There are other indicators that you can also watch to help predict the upcoming economy. One such indicator is the AIA's Architectural Billings Index. An article in this SMACNews issue takes contractors through this Index and shares why it is an important leading indicator for the pace of our work 12 months from now. If architects are not billing, then there are no new projects in the pipeline. Another key source listed in the cover story is the Fed's Beige Book, which reports anecdotal information derived from bank branch directors, businesses, community organizations, economists, and market experts on current economic conditions in various regions.

Utilizing these economic indicators can help you benchmark your business activity to see if it is mirroring the economy, or if you should take a closer look at your operations and the competitive landscape around you and make some adjustments.

An overlooked resource I rely on to benchmark all this data is my peer group. Talking with trusted peers is a great way to get a good sense of business and economic conditions across the country. Our peer group examines both internal and external factors that drive business success. Check out the "Let's Talk Shop" Podcast to hear my conversation with Matt Cramer and Jack Knox as we talk about our peer group. To find that, just search "peer" on SMACNA's website. A good business owner is always trying to predict the future so we can be prepared for what is in front of us! ▼

Sincerely,

Angie Simon, SMACNA President



Architecture Billing Index, A Key Indicator of Construction Spending

The COVID-19 pandemic threw the brakes on the economy in 2020, shuttering businesses around the world and throwing millions of people out of work. In 2021, as the health situation improved, and businesses found new routines, owners breathed a sigh of relief, hoping life would quickly return to normal.

So why did non-residential construction spending fall in early 2021, at the very time that other industries were starting to recoup? Jennifer Riskus, Director of Economic & Market Research for the American Institute of Architects, not only knows why it happened but was able to predict the drop. “It wasn’t historical, but there was a pretty sharp drop-off in construction spending early this year. Many people were surprised because they were seeing the overall economy starting to recover, and people getting vaccinated, but our data showed exactly what would happen.”

The AIA has been tracking activity at architectural firms across the United States since 1995. They publish their findings in the Architecture Billings Index (ABI), a key indicator of non-residential construction spending. “The

ABI is a tool to understand where the economy is going and what impact it might have on industry,” Riskus says. “Architecture billing leads non-residential construction spending by about 9-12 months. What that means is that when business is picking up at the architecture firms, you can expect to see construction spending numbers start to pick up in 9-12 months. Conversely, if billing starts to decline at firms, you can expect to see a decline in construction spending about 9-12 months later.”

Even during the unprecedented challenges of 2020-2021, the relationship held firm. “Architectural billing plummeted to an all-time historical low in March of 2020 due to the pandemic,” Riskus says. “Construction spending decreased slightly during the earlier days of the pandemic, but really started to drop in early 2021, basically 9-12 months later. We’ve tracked this relationship through many cycles. The more data we have, the stronger the correlation is.”

Riskus collects data through a monthly survey of AIA member firms. “Our ABI panel comprises around 550 firms, and we get about 400 responses per month. Roughly half of the firms on the panel reply every month of the year, and the rest respond at least four or five times

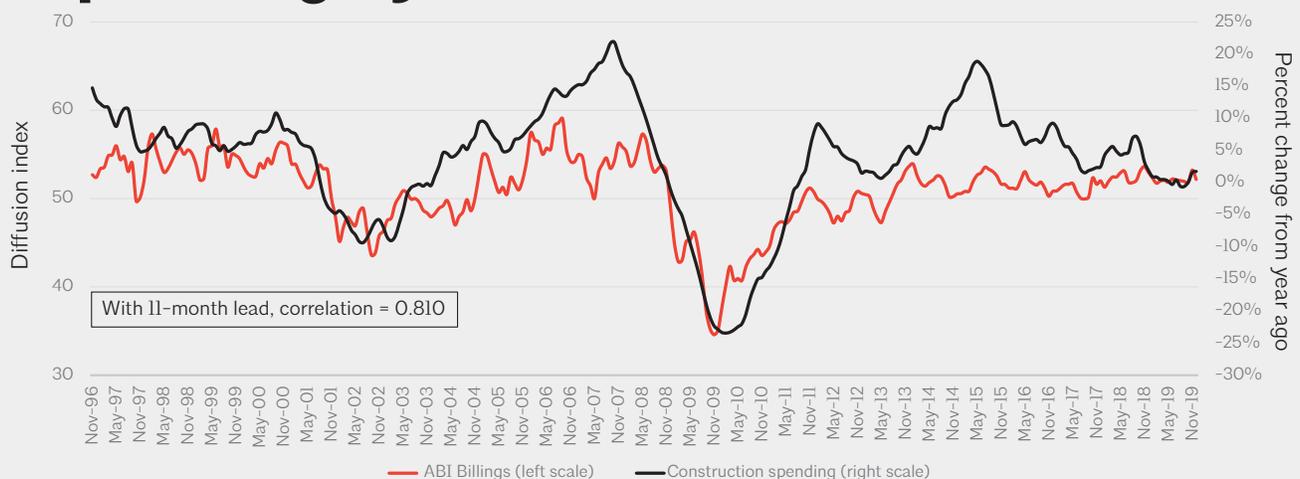


ARCHITECTURE BILLINGS INDEX
bit.ly/3mhYMlz

“ARCHITECT’S JOURNEY TO SPECIFICATION”
bit.ly/384tKoD

WHITE PAPER: EXTENDING THE APPLICATIONS OF THE ABI
bit.ly/2WB13Gi

ABI leads nonresidential construction spending by 11 months

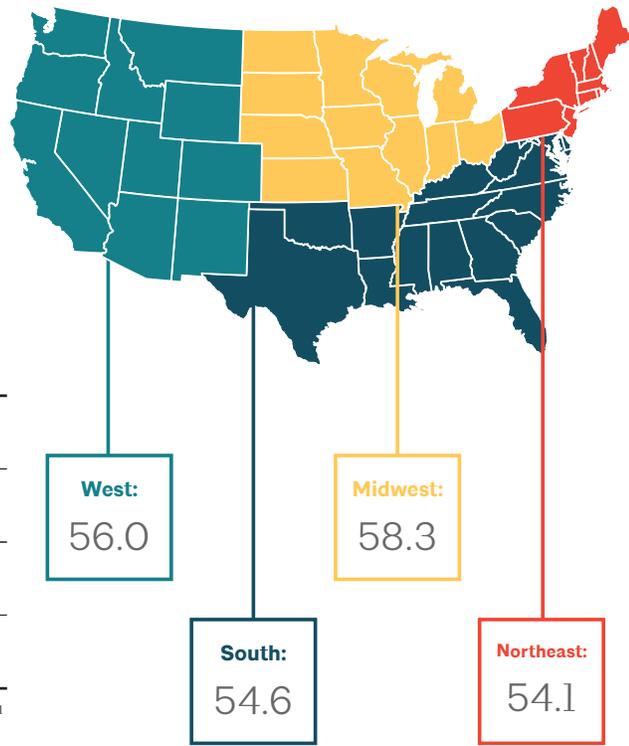
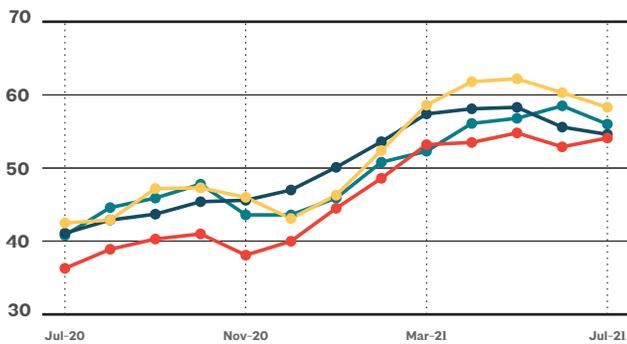


Source: AIA ABI survey (3-month moving avg.) through Dec. 2019 and US Department of Commerce, Construction Spending Put-in-place (3-month moving avg., year-over-year % change)

Regional

Firms located in the West report the strongest business conditions for the sixth consecutive month

The ABI survey asks whether billings increased, decreased or remained the same in the prior month. An index score of 50 equals no change, above 50 equals an increase in billings, and below 50 equals a decrease. The U.S. map shows each region by month. The chart below represents the ABI index per region over the course of one year.



a year.” The firms are scattered across the United States for a wide lens view of the economy.

The ABI panel is different from the general AIA membership because many AIA firms have a single-family residence orientation. “We don’t let firms participate in the panel if 50 percent or more of their buildings are single-family residences. That makes our panel skew towards larger, very industrial firms.

“According to the US Census Bureau, about 70 percent of non-residential construction spending occurs within the first year of the project,” Riskus says. “Obviously, design comes before that. The architectural billing data helps companies determine when to ramp up or ramp down hiring in factories, when to adjust production, or how to refine business planning.”

Billing information is just part of the data the AIA collects. A recent survey included add-on questions about supply costs. It will be no surprise to SMACNA members that most architectural firms described supply problems. In May of 2021, 37 percent of panel firms reported that the increasing costs of basic construction materials was a serious difficulty, while 35 percent said it was a moderate challenge. Supply shortages of finished construction products have been less serious, but still an issue. “Overall, the good news is that increasing costs are not leading to outright project cancelations, though they might lead to smaller projects, higher construction bids, or project overruns.”

Billings Design Contracts



These numbers are from the July ABI survey, showing a slight reduction compared to June, but still in positive territory.

Anyone can purchase detailed industry reports from the AIA website. The institute even offers a sampling of free resources, such as the “Architect’s Journey to Specification” and “Designing the Construction Future: Reviewing the Performance and Extending the Applications of the AIA’s Architecture Billings Index,” which provides a good foundation to get a better understanding of the ABI.

Riskus is already planning her next white paper. “We will do an update after this business cycle, to re-evaluate the performance of the ABI during that construction cycle. It will be coming out in a year or so, once we see what’s changed and what hasn’t.” ▼



Top Southeast Pediatric Healthcare System Taps Three SMACNA Members for New Campus

The Southeast's top pediatric hospital system, Children's Health of Atlanta (CHOA), will soon have a new hospital campus that provides advanced care for kids. Due to an ambitious five year timeline, CHOA tapped three SMACNA members to cover the HVAC needs in multiple buildings at the future site of the North Druid Hills Campus location. The all-new campus will include the Center for Advanced Pediatrics, an outpatient clinic, a hospital, and a Support Center.

The general contractor decided to divide the HVAC project into two parts. "The overall building is roughly 1.2 million square feet," explains Jack Knox, president of RF Knox. "They were concerned that neither Knox nor BHW would have adequate manpower needed to complete the project according to their timeline." Keith Harris, president of BHW Sheet Metal, Co. adds, "This is not the first time we've worked together on large-scale projects like this. We also teamed up on Atlanta's Mercedes-Benz Stadium."

"This time BHW has the low-rise, five-story, Diagnostic and Treatment (D&T) section of the hospital," says BHW Estimator David Morgan. "The 700,605 square foot D&T includes 26 operating rooms and four specialty procedure rooms. We're installing approximately 768,775 square feet of duct work, or about 1.2 million pounds of metal." BHW already has 20 team members on site and expects to

double that number soon. They will be on site for two and a half years.

"We have the tower and the central energy plant," says Rob Shorts, project manager for Knox. "We'll install approximately 1.4 million pounds of sheet metal into the tower, plus about 42,000 pounds in the CEP." Knox is also providing a trash chute system throughout the hospital with another 90,000 pounds of welded 11-gauge stainless steel. "Knox has seven crafts-people on site now," says Knox Project Superintendent Jesse Sosebee. "I expect we'll ramp up to 35-40."

The third SMACNA contractor is Research Air Flo. "We're handling TAB for the entire hospital complex," says Kevin Derrick, Research Air Flo CFO. "We'll be on site in earnest at the beginning of 2023. The D&T includes six energy recovery units, 16 AHUs, 800 VAV terminal units with reheat water coils, and about 5,000 grilles. The tower has roughly 4 energy recovery units, 6 air handling units, 1,075 variable air volume terminal units with reheat water coils and 5,400 grilles. We'll do the bulk of our work in 6 months with four staff present most of the time. As pockets of work become available or milestones approach, our crew will fluctuate up to eight, depending on the need."

Both BHW and Knox have ductwork on the mechanical third floor, where they cooperate closely. "We're connecting to BHW ductwork, so we had to discuss where



LEFT: This level three mechanical room duct serves operating rooms on the second floor.

MIDDLE: Rack #1, which is 18'2", has four joints of 44x20 return air duct. The rack is fabricated in Nashville and then sent to a warehouse in Smyrna, Ga., where the electrical conduit/components are installed. This section is the first of 38 racks for the 4th floor West Wing patient rooms.

RIGHT: This is the level three mechanical room.



over 1.3 million square feet is new," Derrick says. "The challenge for us will be to close out areas and be able to walk away from them rather than having odds and ends scattered all over."

A new challenge and opportunity with this project is prefabricating multi-trade racks prior to installation. "Having all the trades located on a multiservice rack in the tower is a new challenge and opportunity," Roy says. "It forces the trades to work in one location instead of spread out over the floor, so careful organization goes into making sure the trades communicate when they leave the rack and how they crisscross each other.

"The rack is prefabbed in the electrical contractor's warehouse, then shipped to the site, lifted into place and connected. We use about 60-70 racks per floor for the patient tower. We're coming in in stages. The goal right now is four racks per day will be built, four racks will be shipped out per day, and four racks will be installed per day."

"Taking care of children who have dire problems at a young age is near and dear to us all," Derrick says. "In the past 10 years alone, Research Air Flo has completed over 1,300 projects in hospital/clinical environments, including over 200 small projects in the Children's Healthcare System. We've got a long relationship with CHOA and are pleased to be a part of this project as well."

"We think it will be great for the kids, for our company, and for our employees, to provide for their families," Harris says. "This should be a very, very proud project for all of us.

"We always take pride working inside of CHOA hospitals," Knox adds. "Between our three companies, we're going to employ over 100 sheet metal workers." ▼

we start and stop," said Andy Roy, Knox BIM manager. "BHW also owns the stairwell pressurization through the D&T up to about a foot above the 4th floor, where we connect as well."

The contractors contributed design ideas that brought major savings. "BHW gave CHOA almost a million dollars in savings by suggesting they change the grease duct in the two kitchens from double-wall to welded black iron," Morgan says. "We also rerouted pipes and moved fans to shorten distances."

Knox designers found that the original energy recovery units used very costly ductwork because they were located on the tower roof. "They would have required piping that got bigger and bigger until the top floor," Roy said. "We were able to move the energy recovery units onto the 11th floor. This put them in the middle of the building, reducing the size of the ducts. Because they were inside the building, we changed to smaller units, and we also got rid of the expensive ductwork on the roof."

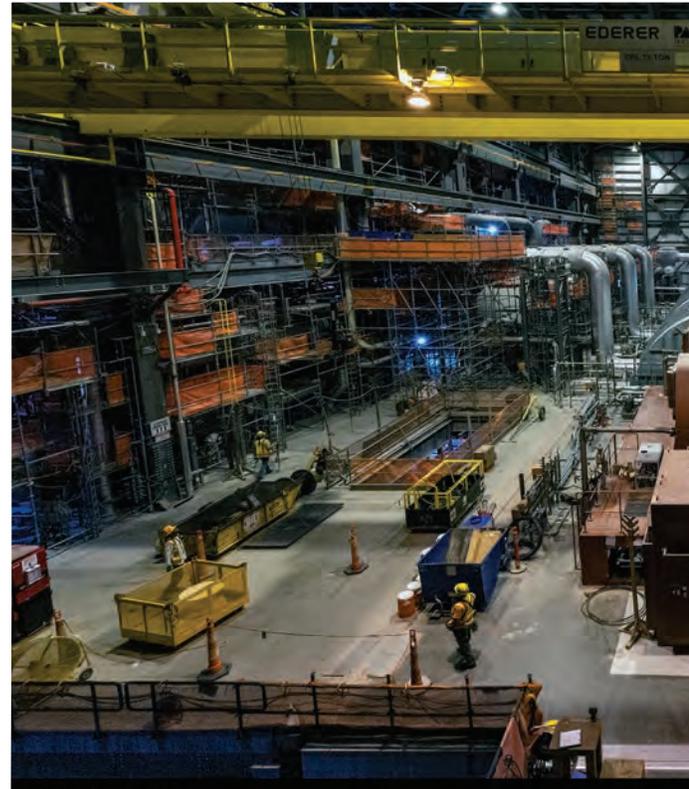
The project has not been without difficulties. "From a balancing standpoint, the sheer size of having activities



R.F. KNOX COMPANY
rfknox.com

BHW SHEET METAL
COMPANY
bhwsheetmetal.com

RESEARCH AIR FLO
researchairflo.com



Industrial Safety: TAB Contractor Recognized

Beginning work at a nuclear power plant last year — the first new reactor construction in the United States since the Three Mile Island accident in 1979 — SMACNA contractor Research Air Flo expected heightened safety requirements.

They were more than prepared.

Thanks to years of internal work developing a culture of safety, Research Air Flo's testing and balancing technicians have excelled at the Plant Vogtle Units 3 & 4 Project located in Waynesboro, Ga. Pete Boyzuick, contract manager for prime contractor SSMI, recognized the Atlanta-based company with a Spotlight Award earlier this year for their safety performance.

"Our staff was already used to many of the rigorous protocols that are in place at Vogtle," said Kevin Derrick, CFO at Research Air Flo. "It's an historic project that we are proud to be a part of. We are also very proud of our safety record. Through it all, 2020 was a successful year for Research Air Flo, Inc. We also placed 3rd in our man-hour category and won the SMACNA Safety Award as well as a Zero Accident award."

"I was surprised," said Wesley Webb, field superintendent for Research Air Flo. "There are over 10,000 badged people for this project. We're a small team, and our

contact with people is fairly limited on site. For SSMI to recognize us was a huge achievement."

Webb and his technicians are testing and adjusting all HVAC equipment, including 164 air handler fans and related hydronic systems.

"These guys have been on site for over a year with zero incidents," said Bryan Beckham, Safety Manager for SSMI, "We wanted to recognize them for going above and beyond with the safety, quality and production they bring to the project."

Intense safety training and monitoring are part of every work day at Plant Vogtle. Webb said general contractor Bechtel Corporation essentially has a safety school. Subjects range from hearing protection to working at heights. In addition to Bechtel's thorough safety program, Southern Company, one of the Plant Vogtle owners, also requires specialty training for specific areas and tasks such as Rad Worker training. While Research Air Flo staff does not access high radiation areas, they sometimes work in environments where they may be exposed to some types



LEFT: This aerial shot shows Plant Vogtle Unit 4 during the construction phase in June of 2021.

MIDDLE: The work environment inside the turbine building of Plant Vogtle Unit 3 in June 2021.

RIGHT: From left are: SSMI General Foreman Brett Milligan, SSMI Safety Manager Bryan Beckham, SSMI Safety Rep. Lorie McDonald, RAF Technicians Wesley Webb, Nathan Wilkerson, Clint Ramlow, David Laird, John Duffy and Sean McCormick.

of low-level radiation. Therefore, they have been trained on how to properly dress out in protective gear. They also learned to identify marked hot spots, and were educated on how to reduce their exposure by keeping a safe distance and limiting time in certain marked areas.

Aerial Work Platforms (AWP) training at Plant Vogtle is extremely thorough, according to Webb. Every contractor worker is trained on most AWP competencies. "It didn't matter if you had a [certification] card or not," Webb said. "Most job sites just ask who is certified for what type of lift."

Webb said the Plant Vogtle safety program covers every detail, including training in dropped object prevention.

Derrick attributes much of Research Air Flo's safety success to a strategic partnership with safety consulting firm SMART Safety Gulf Coast, a relationship that began in 2016.

"Research Air had an EMR [Experience Modifier Rating] of 1.56 as a result of a large workers comp claim. My business partner, Joel Shannon, CEO and I decided that

we had to make very deliberate moves to turn this around and elevate the safety consciousness of our team," Derrick explained. "We now have an EMR rating of 0.91. Companies with an EMR greater than 1.0 are not attractive to general contractors and are viewed as a liability. Though we were still awarded work, those awards were only made after having to jump through hoops and likely having to submit site-specific safety plans. Our safety record was a real negative for us at that time. All business impacts aside, our top priority is doing all that we can to ensure that every member of the Research Air Flo team returns to their families each and every day. They are the reason for our success and we owe it to them."

SMART Safety Gulf Coast provides four site visits per month in the Atlanta area to coach Research Air Flo staff. They provide a structured response to an incident of any kind, including automobile accidents. Each project folder has a safety packet within it, so each technician has a roadmap with him or her that will guide/direct immediate steps in the event of an accident.

"SMART Safety Gulf Coast helped us develop a safety manual that truly was ours," Derrick says. "The structure is what we needed."

Derrick said Research Air Flo considers SMART Safety Gulf Coast an "invaluable partner." "We need them on our team, so the same message is presented to new employees and re-enforced with our senior technicians," Derrick said. "Complacency breeds accidents and operating safely each and every day is no accident." ▼



RESEARCH AIR FLO
researchairflo.com

SSMI
ssmi.biz



Example of a Fully Utilized Google Ad Words Search Ad

Ad · <https://www.mytrugreenlawn.com/lawn-care/service> ▾ (888) 571-3427

TruGreen® of Manassas - \$29.95 First Lawn Service

Best **Lawn Care** Deals For 2021. 1st Application Only \$29.95. Get A Free Quote. Top National **Lawn Care** Service Company. Be Proud Of Your **Lawn** With TruGreen® This Year. Healthy **Lawn** Guaranteed. Top **Lawn Care** Company. Professional **Lawn** Experts. Reliable Service.

Lawn Care Services

Plans for every yard, which always includes the Healthy Lawn Guarantee

Yard Services

Get a green, healthy yard that you can be proud of

Lawn Pest Services

Eliminate lawn pests today with a comprehensive plan

Weed Control

Eliminate weeds once and for all without harming your lawn

The ad above includes both a "call extension" and several "sitelink extensions," which boost inquiries.

Google Ads are a Great Way for Contractors to Gain New Business

EDITOR'S NOTE: SMACNews will be covering digital marketing efforts from time to time as part of the residential sector column due to the heavy utilization of these marketing channels to promote businesses locally. Here is an article written for SMACNA by a Google employee who works with businesses on their AdWords Strategies.

For many contractors, Google Ads is a complex landscape, but with a couple of tips and tricks to simplify the process, Google Ads can be a very effective tool to gain new customers in new ways.

While books could be filled with Google Ads strategies and best practices, a quick overview of search campaigns, local campaigns, and budget optimization are all that are needed to reap the benefits of Google Ads.

SEARCH CAMPAIGN

Search sits at the core of a Google Ads Campaign. It can effectively capture residential audiences while they are actively interested in and pursuing HVAC solutions. There are several key elements to leverage within a Google Ads account to make it as effective as possible. These include keywords, "ad extensions," and budget allocation.

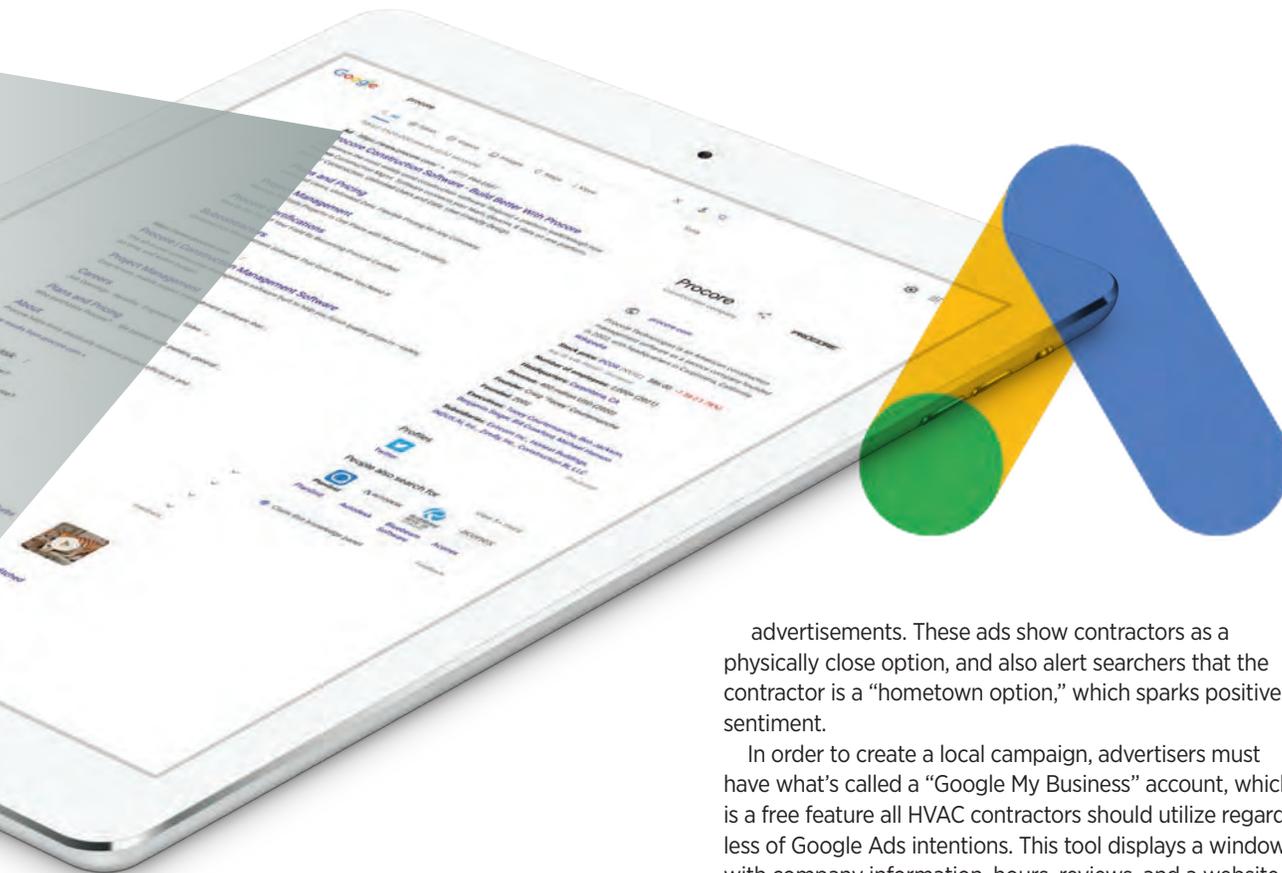
Keywords are the most important element of a search

campaign because they match your interests with the search terms used by consumers. If there is a match, your ad will show up.

If keywords are too broad, such as the name of the city (let's say Indianapolis), then ads will show for all sorts of irrelevant searches, such as "hairdressers in Indianapolis." However, if keywords are too narrow, such as the exact name of a company, say "Jones Brothers, Ltd.," then the ad risks missing out on prospective customers searching for contractors more broadly in a category like "air conditioning."

Best practice is to include 20 to 30 keywords that represent a wide array of search possibilities a potential customer might use to find an HVAC Contractor in your area. For example, keywords could cover local searches with "HVAC contractors near me," or individuals just learning about the industry with "how to fix AC units." Keywords should also consider services offered, such as "indoor air quality," "air conditioning installation," or "heat repair," in addition to the name of the company for word-of-mouth referrals. Other key words to use include parts of an HVAC system that consumers may likely know like "compressors," "fans," "duct" and "refrigerant."

Ad extensions are all the features included in an ad that give more insight into the company or its offerings. For



HVAC contractors, having a “call extension,” where searchers can click on the ad to contact the company, can boost inquiries. Also, “sitelink extensions,” the clickable one-word links directing users to different website landing pages, can be an effective tool to highlight different service offerings, or to direct a searcher right to the contact page (see example).

Budget allocation is the final crucial element of a search campaign. There is no “right answer” as to how much to spend on the campaign, but the “keyword planner” tool (built into Google Ads accounts) can be useful to investigate expected costs per click, and a budget can then be built off the desired number of clicks each day. The most efficient bid strategy to use for a search campaign is “maximize conversions,” which means an account will use data to target searchers most likely to spend money with the company, ignoring less relevant traffic. In order to set an account to maximize conversions, “conversion actions” must be set up first.

LOCAL CAMPAIGN

A great Google Ads option for HVAC contractors who serve a particular location is what’s called a “local campaign.” When a user searches “air conditioning repair near me,” Google will return a map with several local options highlighted. Local campaigns allow HVAC contractors to appear as one of the top results on this map feature, and show up in several other locations where Google displays

advertisements. These ads show contractors as a physically close option, and also alert searchers that the contractor is a “hometown option,” which sparks positive sentiment.

In order to create a local campaign, advertisers must have what’s called a “Google My Business” account, which is a free feature all HVAC contractors should utilize regardless of Google Ads intentions. This tool displays a window with company information, hours, reviews, and a website link to individuals searching a company by name.

TIPS TO MAXIMIZE BUDGET

The Ad Auction, which determines where your ad will be shown and at what price, is an equal balance between the quality of the ad (how informative and useful the ad is to searchers), the relevance of the ad to the user, and how much an advertiser is willing to pay. The higher the quality score of an ad, the lower the cost per click of the ad in question, so having a high ad quality score is of the utmost importance. This can be achieved through three key methods. Accounts will periodically recommend ways to improve ads’ quality scores, under a tab entitled “recommendations.” Additionally, adding extensions to ads, mentioned above, gives searchers more information about the advertised company, and Google rewards informative ads with a higher quality score. Lastly, when setting up and editing the text displayed in ads, accounts will display a score from poor to excellent. Adding more headlines and descriptions, particularly with relevant keywords in the text, is a common way to boost an ad’s quality score.

With a small block of time, and a little bit of patience navigating the interface, Google Ads can earn any HVAC contractor new customers and business growth. These recommendations barely scratch the surface of all the ways Google Ads can benefit HVAC contractors, but as account mastery progresses, so will your return on investment. ▼



COVER STORY

HVAC and Sheet Metal Companies Navigate Steel Shortage

For nearly two years, the Covid-19 pandemic has triggered shortages of consumer goods in unexpected places. There were runs on cleaning products and toilet paper in the early days. Sporting goods stores have seen their selection of bicycles and weights cleaned out. A dearth of chicken has forced some restaurants to take buffalo wings off their menus.



Hercules super sheet packaging.

In the construction industry, companies have found themselves trying to work around disruptions in the steel market. Shortages led to a runup in price in the last year that has been nothing short of breathtaking. According to the Producer Price Index maintained by the U.S. Bureau of Labor Statistics, the price of steel climbed 145% from the early days of the pandemic in June 2020 through June 2021. “The pricing has gone up to a level that no one’s ever seen before,” says Kevin Ginley, vice president of the commercial division of Cleveland-based Majestic Steel, a distributor and processor of prime carbon flat-rolled steel.

Amid supply constraints, the volatility in the steel market is presenting managerial challenges for sheet metal and HVAC companies scrambling to keep up with demand for their products.

PLAYING CATCHUP

You can trace the current dislocations in the steel supply chain

to a constellation of cascading factors. Issues started to emerge in the middle of 2020, according to Brian Loftus, a market research and benchmarking analyst with Heating, Air-conditioning & Refrigeration Distributors International (HARDI).

“After the economic coma in the spring of 2020, the economy bounced back stronger than expected,” Loftus says.

“If you look at the Federal Reserve’s Beige Book from July, Cleveland, Chicago and Minneapolis mention projects postponed or delayed due to the high cost of steel and concrete and labor shortages.”

Ginley notes that steel mills initially slashed their production capacity in response to the pandemic. However, the quicker-than-expected recovery in the broad economy meant demand for steel also ramped back up faster than anticipated. Mills have essentially been playing catchup ever since.

As a result, steel-reliant industries are dealing with a double

whammy to their supply chains. First, the lead times to fill orders for steel lengthened. “Ask any distributor and they will tell you that lead times are much longer now,” Loftus says.

“That just puts more pressure on the inventories you’ve got on your floor to be able to supply customers,” says Don Modesitt, steel products manager at Denver-based Hercules Industries Inc. “What existing inventories

steel orders range from five to six weeks, but they are sitting at 13 weeks right now. Conklin purchases roughly 40,000 tons of steel each year, and Goff estimates the company has seen prices triple during the pandemic.

Additionally, steel mills have instituted allocation policies that limit the volume of steel available to their customers for purchase. For the most part,

AMID SUPPLY CONSTRAINTS, THE VOLATILITY IN THE STEEL MARKET IS PRESENTING MANAGERIAL CHALLENGES FOR SHEET METAL AND HVAC COMPANIES SCRAMBLING TO KEEP UP WITH DEMAND FOR THEIR PRODUCTS.

were on service centers’ floors had to stretch just to be able to at least try to keep things level.”

Will Goff, director of steel and commodities at Atlanta-based Conklin Metal Industries, says traditional lead times for filling

they aren’t selling amounts beyond their contractual minimums. Opportunities to make spot purchases are few and far between, too.

“Domestic spot buys right now are completely up to the



ABOVE: Specialty PCD coated slit coils.

RIGHT: This recoiler takes a 50,000 lb coil and processes it into several small coils; 3,000 lbs minimum and 12,000 lbs maximum.

FAR RIGHT: This is an example of high speed precision blanking and recoiling.



mills in terms of discretion, and most of them are not giving anything to anyone that has not bought from them in the past," Modesitt says.

SUPPLY CONSTRAINTS

Consequently, the major issue isn't the price of steel so much as the supply of it. The shortage has forced the steel distributors that directly purchase steel from the mills to impose their own allocation restrictions on orders from their customers.

"It's almost to the point that we can give our customers what they need, but we can't give them all the steel they want," Ginley says.

Interestingly, the market isn't showing signs that disruptions in the steel supply chain are hurting sheet metal and HVAC companies so far. For example, data from HARDI show average sales performance by HARDI distributors increased 22.1 percent during June 2021. For the 12

months ending in June, average annual sales growth hit 17.2%.

"Demand is off the charts – no question about it," Modesitt says.

"We're just trying to stay current with the market and following the mills' lead of increasing selling prices in small increments. If we didn't, we'd be completely out of steel," Goff says.

At present, the biggest challenges for steel distributors

seem to come from managing their own supplies. For instance, Goff says Conklin is prioritizing filling orders from its most consistent customers.

"We're trying to protect our inventory so that we have steel for our customers when they need it the most," he said. "In other words, we don't want to have to tell 10 customers that we don't have steel for them because we sold it all to one contractor."

Majestic is taking a similar approach, according to Ginley. "We're not shorting anybody that wasn't buying anything before," he says. "The tricky part is how do you help people grow their business when they don't have all the extra tons (of steel) that they normally have?"

Some companies also have the option of leaning more heavily on foreign steel markets for specialty products. Hercules Industries, for example,



has increased its purchases of foreign steel from around 3% of its inventories to around 6% this year, according to Modesitt.

QUALITY PARTNERSHIPS

Of course, there's a big question percolating across the sector: When – and how – will the steel market stabilize?

Ginley predicts it will be a slow-moving process, but it could ultimately build resiliency in the market. New electric arc furnaces (EAFs) are coming online later this year and into early 2022, he says. In the short run, taking older blast furnaces that are less efficient out of service will be offset by the impact of the new EAFs coming online. In the long

IN TERMS OF LESSONS LEARNED FROM THE ONGOING STEEL SHORTAGE, BUYERS EMPHASIZE EVALUATING RELATIONSHIPS WITH STEEL SUPPLIERS.

run, however, Ginley says the new mills will increase efficiency because they can adjust quickly and easily to meet demand.

In terms of lessons learned from the ongoing steel shortage, buyers emphasize evaluating relationships with steel suppliers. Goff notes mill buyers that didn't have pre-existing buying programs in place have struggled in 2021 because there was practically zero volume available for spot buying.

Modesitt points out that the process for buying steel will look different going forward, meaning companies will need reliable partners.

"Look at the value that your suppliers bring to you," Modesitt says. "Are they on time with their deliveries? Have they treated you fairly in the market? Make sure that whom-ever you line up meets your cultural expectations. It's really a partnership." ▼



MAJESTIC STEEL:
majesticsteel.com

HARDI:
hardinet.org

HERCULES INDUSTRIES:
herculesindustries.com

CONKLIN METAL INDUSTRIES:
conklinmetal.com

Cooking Up Clarity:

Bringing guidance to food processing industry projects was goal of new SMACNA guidelines.

Welding inside a hot rolled steel dust collection duct for a soybean plant.



Many contractors engaged to make “food grade” ductwork for food processing plants typically have lots of questions and few answers when it comes to figuring out exactly what clients are asking for: Are they following U.S. Food and Drug Administration or U.S. Department of Agriculture guidelines? Does the plant want to use stainless or hot-rolled steel? What type of finish do they want on the metal?

“‘Food grade’ is a hard thing to define,” said Mitch Golay, part owner and vice president of operations at Corn States Metal Fabricators Inc. in West Des Moines, Iowa. “Food grade at a seed-corn plant is not the same as food grade at a spice plant, and it is not the same as food grade at a dairy plant,” he said. For contractors, “it’s a different type of welding. It’s a different type of finish. It’s a different type of material.”

Bringing some clarity and standards to the subject of food grade ductwork fabrication and installation was the goal behind the “Food Grade Ductwork and Sheet Metal Guidelines,” recently published by SMACNA. Almost four years in development, it explains the different types of materials used in food processing facilities’ HVAC systems, what to consider when choosing them, and design best practices.

Golay was one of seven SMACNA members who assisted in drafting the guidelines. Roeland Hoeke of mechanical contracting firm H.T. Lyons Inc.

in Allentown, Pa., was task force chair.

‘A HODGEPODGE’

Prior to the guidelines’ release, sheet metal advice for projects in the \$750 billion food processing industry was typically cobbled together from existing SMACNA manuals, standards and papers that touched on the subject, Golay said. Publications from groups such as ACGIH, (American Conference of Governmental Industrial Hygienists), were also referenced.

“There’s been kind of a hodgepodge,” he acknowledged.

This publication aims to fix that problem, task force members said, by pulling together relevant information from SMACNA manuals as well as other highly regarded industry sources. The new guidelines encompass food processing regulations and standards; food grade ductwork and associated applications; materials; engineering and design; hangers and supports; welding; grease duct and flue venting; and in an appendix, mitigating combustible dust.

Spread over 11 chapters, the guidelines lay out common scenarios that sheet metal contractors, as well as engineers and system designers, are likely to encounter as they work on food grade duct projects.

Hoeke said the task force’s goal was to pool their collective

industry knowledge and create a publication that would benefit the whole industry, with a special focus on assisting engineers who may find themselves working on food industry duct projects.

AIMED AT CONTRACTORS, ENGINEERING COMMUNITY

“We wanted to be able to take some of that knowledge and put it together in one spot. And that way we’d get a good reference publication not only for the members of SMACNA and sheet metal contractors, but also for the design and engineering community,” Hoeke said. “It didn’t seem like anything existed that covered all of what sheet metal contractors do within food and beverage plants.”

Other task force members contributed to the new “Food Grade Ductwork and Sheet Metal Guidelines,” including Corey Chestnut of Climate Engineers, Hiawatha, Iowa; Andy Kanaar of East Muskegon Roofing & Sheet Metal, Muskegon, Mich.; James E. Panarelli of United HVAC Co. Inc., Rockland, Mass.; Steve Shea of Newjac Industrial, Lebanon, Ind.; and SMACNA staff liaison Shawn O’Hara.

Hoeke’s company doesn’t have as many food industry clients as some sheet metal contractors based in the Midwest, or other task force members. But Hoeke, H.T. Lyons’ president, pointed out that many consumers have likely tasted items made in factories that are



LEFT: This shows the dust collection duct for a corn seed plant.

ABOVE: This is a custom basket strainer for a food plant.

on its project list: marshmallow candies, jelly beans, chocolates, bread, pastries, soda, milk, iced tea and even beer.

“We’ve worked in confectionery facilities. We’ve worked in vitamin plants, bakeries, dairies, breweries and some water bottling companies,” he said.

But even if he hasn’t worked in the meat processing and prepared foods factories of the

Heartland, Hoeke said that he’s always had a deep interest in the production process, which is why he really enjoyed learning more about the food processing industry as the task force drafted the guidelines.

LACK OF STANDARDS

Being based in West Des Moines, Iowa, Golay’s company does a lot of duct fabrication

and installation work in the corn and soybean processing facilities that dot the Midwest, which is why he was tapped by SMACNA for the food grade ductwork task force.

The lack of standardization in the food processing industry can make projects more difficult than they need to be, Golay said.

“We’ve done work for the same company in two cities that are 30 miles apart and they have completely different standards, which is ridiculous,” he said.

However, Golay pointed out that the guidelines aren’t attempting to be prescriptive. They still leave engineers and contractors with options to

figure out what works best for the client and the facility. But hopefully, it will improve communication between both parties by helping contractors determine the right questions to ask and prompting engineers to provide clear answers.

“It basically says when we go through all the contents of the guidelines, ‘Here are some suggestions, but this is what we need from the engineer and the people at the plant who decide how this really works,’” Golay said. “So they can’t just say ‘food grade.’ They have to say, ‘No, no, no, we want stainless steel. We want hot-rolled steel. We want it fully welded.’”



Here you can see the dust collection ductwork for the corn seed plant in an interstitial space.



The size of this stainless sludge tank for a slaughter plant was determined by the door opening.

Having that kind of information earlier in the planning and even the construction process can make for a better experience for everyone, Golay added.

Hoeke agreed. Having these guidelines would have been helpful for some of H.T. Lyons' projects, he said. "In many past cases, we were not the engineer of record," he said. "If we thought something didn't look quite right, we could have pointed the engineer to this document."

A common example, cited by Hoeke and Golay, is threaded rod, which is often used to hang ductwork and piping. Because it's fully threaded, dust and debris

can attach to the threads that stick out. Solid, unthreaded rod is usually a better choice in food manufacturing facilities, but not every engineer knows that.

"We can use this guideline to say, 'Hey, I think you should be upgrading to something like this,'" Hoeke said.

SOME PARTS ESPECIALLY USEFUL

Working on the guidelines for so long, both Hoeke and Golay said they have parts that they're

especially proud of and believe will be the biggest benefit to the industry. For Golay, it's the model specifications in chapters that cover items such as process exhaust, sanitary tubing and pneumatic conveying, and ductwork engineering and design.

Having specifications assembled together makes it much easier to ensure everyone knows what they're doing, he said. "So the customer knows what they're getting and we



TASK FORCE PARTICIPANTS:

CORN STATES METAL
FABRICATORS
cornstates.com

H. T. LYONS
[engiemep.com/
companies/h-t-lyons](http://engiemep.com/companies/h-t-lyons)

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know what the customer wants," Golay said.

Hoeke said he found several chapters to be extremely helpful for anyone wanting to get a better understanding of the intricacies of food grade ductwork.

"If I were to give this book to somebody and say, 'Read this. Then you'll know what we're talking about,' I would start with chapters four and five ("Food Grade Ductwork and Sheet Metal Applications" and "Duct and Sheet Metal Materials"). And then secondarily, chapter six ("Engineering and Design — HVAC Ductwork Serving Food and Beverage Production Process/Sanitary Areas"). ... I think that four, five and six in the middle, that's the meat of it." Hoeke said.

And Hoeke said he's proud of the guidelines and what the task force has accomplished in putting them together. "I believe that SMACNA, along with other U.S.-based engineering associations and building code groups, have set the standard for the world as far as building construction and facility construction quality." ▼



LEADERSHIP

Ron Magnus

How Leaders Can Build Enduring Resilience

We've all heard the phrase, "It's a marathon, not a sprint." When we hear that statement, we most often think about time horizon — the message is to focus on the long-term, not the short.

You must pace yourself for the lengthy journey, versus giving everything you have in a short burst. It's not bad advice, and it feels especially relevant in our current situation with COVID-19 and all its variants. However, there's more wisdom and nuance in that message if leaders can dig a little deeper.

Comparing the world of work to a marathon doesn't quite give leaders justice. There is no doubt that training for a marathon is unbelievably challenging. There are months and months of focused training, countless hours of running, overcoming and nursing injuries, and staying laser focused on hydration and nutrition. There's nothing easy about the process, which is why so few do it.

However, there is a clear beginning, milestones along the way, and a big conclusion. There are also plenty of rest days along the way to recuperate. It doesn't feel fair to compare that to the work environment these days. It's as if we are running a series of marathons, back-to-back, with little to no room for rest and no clear end point (unless you consider retirement, which feels distant on the horizon for many). As challenging as this is during "normal" times (whatever those are), we're trying to operate in an exceptionally challenging moment in time.

In "The Infinite Game," Simon Sinek writes, "To succeed in the Infinite Game of business, we have to stop thinking about who wins or who's the best and start thinking about how to build organizations that are strong enough and healthy enough to stay in the game for many generations to come." This perspective applies perfectly to individual leaders and teams as well. How do we build leaders who are strong and healthy enough to stay in the game for decades to come?

While there are no easy answers to combatting fatigue and building resiliency, here are some best practices that leaders throughout the industry have focused on:

- **Focus on Purpose:** Especially in difficult times, it's easy to get tunnel vision and focus only on what needs to be done. We often forget the why of what we're doing. Whether that's connecting to your company's Core

Purpose, or why the team exists, or why you do what you do, reminding yourself of your purpose gives you the right perspective.

- **Build in Rest & Recovery:** No one could run a 500 mile race without rest days. In our work, we need rest days too. Whether this is (actually) taking your vacation days, building time away from work over the week-ends, or not obsessively checking emails before bed, your brain needs time away. It's counterintuitive, but time away from work makes you more productive and efficient in the long run.



COMPARING THE WORLD OF WORK TO A MARATHON DOESN'T QUITE GIVE LEADERS JUSTICE.

- **Focus on Others:** In challenging times, it's easy to focus on what we need. The best leaders maintain an outward focus: How are your colleagues doing? What do they need? How can you support others? What leaders find is that by focusing more of their attention on others, they worry less about themselves.
- **Ask for Help:** No one can do it all themselves these days. To sustain success for decades, leaders need a strong network and the courage to ask for help when it is needed. Whether that's for advice, brainstorming new ideas, or for someone to carry the load when it gets to be too much, lasting success requires collaboration and help from others.

Nearly every leader we interact with is experiencing some level of fatigue right now. Leading in uncertain times takes more energy than leading in good times. We've certainly dealt with a series of unprecedented challenges over the past 18 months. While there are positive signs, we're not out of the woods yet. Leaders need to focus on building resiliency so that they can sustain success over this marathon of marathons. ▼

Ron Magnus, managing director of FMI's Leadership and Organizational Development Practice, with Tim Tokarczyk, partner.



FINANCIAL STEWARDSHIP

Ronald J. Eagar

Upgrading Your Pre-Qualification Process to Today's Market Demands

The purpose of a prequalification process is to evaluate whether a contractor is qualified to bid on a specific construction project. However, the bidding landscape was drastically altered by COVID-19, so it is increasingly important to strategically reposition the way you present your company.

This new environment has necessitated changes in a contractor's overall approach to landing new work, but it's most evident in the pre-qualification process where a company needs to stand out from the crowd and improve its chances of success.

STANDING OUT FROM THE COMPETITION

There are many ways to stand out, including:

Experience – Customize the bid to highlight the unique trade, type of work (public/private), market sectors and other experience the company has that would be relevant to the job being bid on. In this regard, a contractor's creative ability to present itself in a specific light can significantly affect its ability to land that next job.

Past Performance – Quantify your performance record of coming in on time and within budget on past jobs. Consider including cost performance reports, customer testimonials, quality reviews, and other documentation that support your promises of efficient, high-quality service. With today's projects being much more budget focused and driven by a fast-paced schedule, a contractor's historical performance to adhere to both of these items becomes much more important in the decision making process.

Safety Record – Go beyond the basic safety record that is required in the bid and demonstrate your overall commitment to safety. Outline the safety training, compliance programs, technology and other tools your company employs to create a safe jobsite, avoid project delays and protect the customer from financial and reputational risk.

Technology – In an industry that is slow to adopt new technologies, your investment in safety technology, digital financial tools, data analytics and artificial intelligence will go a long way in differentiating your company from the rest. Explain how these technologies allow your company



to increase efficiencies, avoid project delays, make the billing process easier on the customer's staff and provide other benefits to improve their overall ROI.

Financial Capability – Your bid should paint a clear picture of your company's financial solvency, both now and in the future. Include details on credit lines, cash flow projections, relationships with lenders and other advisors, top-line revenues and audited financial statements. Savvy customers, in both public and private sectors, know that lending restrictions, delayed payments and economic damages are plaguing the construction industry today.

Payment History – Emphasizing your strong history of on-time payments to your sub-contractors and vendors will further demonstrate your financial capability and put the customer's mind at ease that project delays will not be caused by delinquent payments or liens. Contractors should be ready with references as well.

Compliance with Contracts – Particularly if you are bidding on a contract with government agency-specific requirements, highlight your past compliance with MBE/WBE or other hiring obligations.

While these extra steps may put an additional responsibility on your already-strained project team as they recover from COVID-19 delays and damages, the benefits and ROI will position your company for long-term financial stability and success. Plan ahead and be sure to lean on the experience of your CPA, surety and other advisors to help you create the pre-qualification process that works best for your company and enables your bid to truly stand out. ▼

Ronald J. Eagar, CPA, CCIFF is a construction partner and COO at Grassi. He can be reached at reagar@grassicpas.com



TECHNOLOGY

Zac Hays

The 6 Most Common Mistakes Estimating Teams Make — and How to Overcome Them

The estimation process is critical to the success of any given project, but it's also a leading indicator of the overall health of your construction business in the long term. Research by Quickbooks found that 25% of construction companies are at risk of business closure because of inaccurate estimates, which demonstrates just how important it is to have well-defined estimation procedures. When your project estimates are on point, you can protect your profit margins, produce more competitive bids and ultimately win more work.

But there are a handful of issues that present roadblocks for estimators time and time again. Here are six of the most common pitfalls we've seen recently and, more importantly, innovative ways companies are navigating these challenges.

1. WORKING IN A SILO AND NOT CENTRALIZING DATA

The takeoff and estimation processes are truly a team sport. Both involve multiple parties across various teams — many times across different companies — coming together to review proposals, plans, specifications and a host of other documents. With so much collaboration throughout the estimation process, having disjointed data and communication leads to confusion, errors and ultimately costly rework.

Unfortunately, too many estimating teams are working in silos and storing data in different locations, which leaves teams working from different documents and failing to stay updated with the latest project information. Working this way inhibits teams from knowing where the takeoff stands at any given point, leading to inaccurate estimates, increased rework and a negative experience for all involved.

To combat data silos and disjointed information, teams need to centralize all project data into one cloud-based platform. Having a single source of truth that gives all parties the most updated information produces more accurate estimates and keeps projects running smoothly when you get to the field.

2. FAILURE TO CREATE STANDARDIZATION ACROSS YOUR COMPANY

There is often a massive lack of standardization when it comes to the takeoff process. When different scopes of work are performed — by different estimators working in silos (usually in desktop products) — there's typically a lot of cleanup to be done to combine the quantities into one wholistic bid.

Estimating teams need to be standardizing for several reasons, including it helps ensure everyone is following the same naming structure; it allows the data to be easily consumed in downstream workflows; and it helps teams work much more efficiently overall. One approach to standardization is to employ templates across your organization. This helps streamline the process of creating takeoffs in a more efficient manner, so teams can focus on generating competitive bids rather than having to start projects from scratch.

3. FORGOING PROPER VERSION CONTROL MAINTENANCE

As we all know, construction project details are hardly ever set in stone. When you don't maintain or control the changes and versions created throughout the process, you risk giving team members outdated information, which results in incorrect estimates.

Once again, this pitfall becomes a nonissue when teams work from a centralized platform that always has the most updated project information. But another way to maintain tight version control is to use platforms that promote transparency and communication. When handling documents and data, use tools that add dates and time stamps so changes are automatically logged. Having a trackable record of revisions makes it abundantly clear who has worked on a task, what changes have been made and more.

4. NEGLECTING HISTORICAL DATA (OR NOT CAPTURING DATA AT ALL)

Historical project data is an essential part of estimation. It helps you compare your projects with similar past ones,

ensuring your team operates with precision and efficiency rather than flying blind and reinventing the wheel with each new bid.

For example, with the recent lumber shortage and price increase, estimators could benefit by collecting and analyzing historical data of previous shortages and use those insights to build risks like this into their cost projections.

5. NOT WORKING IN 2D + 3D

Leveraging 2D sheets and 3D models makes the estimation process much easier and presents a more holistic vision of projects and estimation models. Utilizing both 2D and 3D quantification workflows lets teams leverage aggregated quantities from plans and models in an organized, customizable view.

Historically, takeoffs have been done in separate solutions where quantities must be combined manually later on in the process. Having 2D and 3D models coexisting in the same platform allows for better insight into project complexities and helps ensure that critical information is not lost or unaccounted for.

On top of that, working in 2D and 3D lets you create more visually appealing and compelling presentations to clients and executives, so you can give them an attractive and digestible depiction of your quantity takeoffs.

6. RESISTING AUTOMATION

Working with paper documents, clipboards and spreadsheets is a recipe for an inefficient estimation process. These manual practices not only take up time, they're also highly prone to human error.

The right technology allows you to put various components of the estimation phase on autopilot — tasks like counting and calculating supplies and updating documents. By replacing manual tools and processes with software and automation, teams can be more productive and accurate with your estimates while freeing up time for higher-level jobs at the same time.

Are you making any of these mistakes in the estimation process?

The pitfalls discussed above are common in the industry; many estimators are still operating in silos and aren't leveraging modern tools in their work. The good news is that overcoming these issues is completely achievable. By adopting a forward-thinking mindset and using the right technologies, construction professionals can take their estimates, projects and firms to the next level. ▼

Zac Hays leads product design and development for Autodesk's construction bidding, risk and intelligence products.

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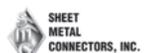
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SMACNA National Headquarters

P.O. Box 221230, Chantilly, VA 20153-1230
703.803.2980 | Fax 703.803.3732

Capitol Hill Office

305 4th Street, NE, Washington, DC 20002
202.547.8202 | Fax 202.547.8810



SMACNA CALENDAR

OCTOBER

Oct. 24-27
2021 SMACNA
Annual Convention
Maui, HI

DECEMBER

Dec. 5-7
Council of Chapter
Representatives
Dana Point, CA

2022

Jan. 24-26
2022 MEP
Innovation
Conference
Tampa, FL

March 1-2
Partners in Progress
Conference
Las Vegas, NV

March 13-17
Business
Management
University
Tempe, AZ

March 15-16
Collective
Bargaining
Orientation
Dallas, TX

Welcome New SMACNA Members

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Creative Specialist: Denise J. Ladd

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