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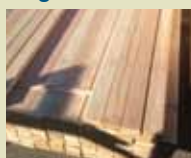
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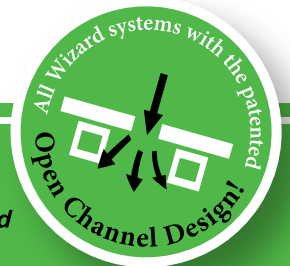


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## What Do You Love About This Industry?

**It's time to share our passion and enthusiasm for the components industry with everyone.**

**I**t seems like I just returned home from BCMC. What an exciting week we had in New Orleans. BCMC Build was a huge success, and I'd like to thank all those who donated their time and products to this wonderful cause. Hats off to Rick Parrino and Jason Blenker; this project would not have come together so well without their leadership and expertise. I would also like to thank BCMC Chair Gregg Renner, the BCMC Committee, and SBCA staff for an all-around truly great show. They shook things up and tried something different this year with the new format, and the results were awesome. Plus, New Orleans was the perfect spot, and our educational sessions were phenomenal. Be sure to check out the articles in this month's issue that feature topics from the educational sessions including metrics for managers; changes to the building codes; and lumber production, grading and design.

One of the sessions, Preparing for the Future of Hiring (see page 16 for more on this topic), hit on something I've been thinking a lot about lately—the availability of a quality work force. As the economy continues to trickle back to a degree of normalcy, we will face the need to hire new employees. While this is a good problem to have, it will be a challenge for many of us. One of my goals this year is to find a way to present the wonderful world of components to potential employees. If I could only spread the love and compassion we have for this industry to other prospective employees, it would make life so much easier.

What do you love about this industry? For me, it is the relationships we have built at our company. It's the security of knowing that people come first and we are all one big family. We are also on a mission to maintain a servant's heart toward our customers and provide them with a product that is unlike any other. For example, components are the reason we are able to erect the BCMC Build home in just two days, and our products help rebuild nations all around the world. That's pretty exciting!

As one of our members and SBCA Past Presidents recently suggested, it is time we got serious about sharing the heart of our industry and association. A revamped and revised WorkForce Development strategy in the form of a professional video is one example. This could be a very powerful tool to entice potential employees to see what we are all about. Hosting a component-specific job fair is another suggestion that a member has brought to the table. If you have an idea, I encourage you to share your thoughts.

SBCA's WorkForce Development website, [wfd.sbcindustry.com](http://wfd.sbcindustry.com), is another great tool at our disposal. SBCA staff is revamping the site and working to attract more fresh faces that will see our industry as a place to build a career with long-term professional growth potential. Having one central location to post jobs and search through a host of resumes is extremely efficient. We should all use this site as the need for employees increases.

If each of us explores new ways to promote our businesses to the up-and-coming workforce sooner rather than later, we will all be much better off when the time comes for recruitment. A book filled with wisdom says that you will reap what you sow. Let's start planting the seed now that our industry is a great one, full of

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### at a glance

- WorkForce Development will need to be a corporate focus as the economy continues to improve.
- Showcasing the world of components, its unique characteristics and many career opportunities can be a powerful way to entice fresh faces into our industry.
- SBCA's WorkForce Development website, [wfd.sbcindustry.com](http://wfd.sbcindustry.com), is a great tool for posting jobs and reviewing resumes, with new site enhancements coming soon.

## Editor's Message

Continued from page 7

growth and potential for years to come. If you have thoughts that will help your peers embrace and accomplish this goal, please let us know. SBCA can provide members with the tools to help potential employees capture the vision, and together we can achieve many great things. I believe it is time to share our passion and enthusiasm with everyone! **SBC**

*SBC Magazine encourages the participation of its readers in developing content for future issues. Do you have an article idea for a future issue or a topic that you would like to see covered? Email your thoughts and ideas to [editor@sbcmag.info](mailto:editor@sbcmag.info).*

## 2<sup>nd</sup> Annual Run for the BCMC Build

By Joe Kannapell, MiTek USA

Another sign of a healthier industry was on display at the 5k Run for BCMC Build. Many new participants joined those who had conquered last year's course along the calm waters of the White River in Indianapolis. This year, though, they



followed the mighty Mississippi, bordering downtown New Orleans and its French Quarter. Notable returnee was long-time adventurer Gary Weaver, owner of Timber Tech Texas in Cibolo, TX, who had overcome a foot injury.

On a crisp fall morning, this fine event exemplified the "Plan, Perform, Achieve" theme of BCMC. Good planning was evidenced by the colorful commemorative T-shirts and collectible race-numbered bibs. Fine performances were turned in by winner Rudy Banuelos of Hundegger USA, L.C., runner-up Ironman Kent Sell of Stock Components, and Ed Deal of MiTek. And all participants achieved a measure of their fitness along their road to better health.

## BCMC Tri-tacular Results



The Second Annual BCMC Trike Tri-tacular race was full of fun and even had a touch of mayhem. Team Super Duper (Barry Dixon, Mike Kozlowski, Dan Morris and David Ehl) took home first prize after winning the championship race by only

three seconds. While they crossed the finish line well ahead of second place finisher, Team No Equal (Simpson Strong-Tie), several time penalties handed down by the impartial judges for various rule infractions narrowed the gap considerably!

Rounding out the final race teams were Eagle Team Awesome II and Team ITW. Thank you to everyone who participated! All proceeds went to benefit BCMC Build. **SBC**



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## Optimization

**Weigh optimization methods against your company's benchmarks to find the solution for your plant.**

Optimization is a phrase we hear quite often these days, and it seems everyone has a strong opinion on the topic. The key to optimization is one size does not fit all. Much like each truss plant is run a bit differently than the next, optimization reflects the capabilities, limitations and goals of a specific plant.

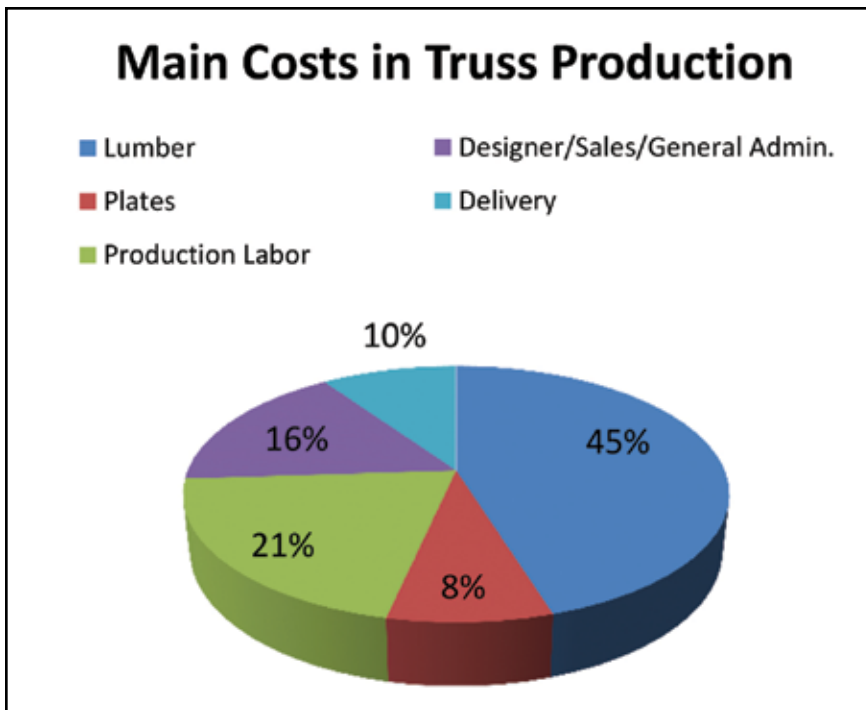
### Question

*Our design department optimized trusses to reduce lumber usage, which caused some unintended issues and inefficiencies on the shop floor. What parts of the plant should optimization take into account?*

### Answer

When optimization is brought up, the first thing that comes to mind is usually reducing lumber usage. While lumber usage generates the largest percentage of cost in truss fabrication, other variables (see pie chart) also need to be considered to achieve optimization of the overall operation.

Understanding the cost percentages in your operation is critical to how you optimize your components. Just because a solution uses less lumber, or saves time at one step of the truss design and manufacturing process, does not guarantee it will optimize overall operations. While it goes without saying that every part of the business has costs attached to it, the following are some possibilities to consider when reviewing each operational area for changes that could help improve overall economics.



Source: SBCA Financial Performance Survey (FPS)

### at a glance

- Examine each operational area for changes that could help improve overall economics.
- Make sure the design department is up to date on price changes of stock lengths of lumber, especially changes due to design value adjustments.
- Factor customer needs into optimization, along with producing a more efficient truss using less material and plant labor.

### Lumber

#### Remove extra members

- Use maximum panel lengths to eliminate webs.
- Remove diagonals on short span trusses where possible.
- Run verticals through the bottom chord if it reduces the bottom chord to a common stock length.
- Set standard slider lengths to less than 2'.

#### Reclaim Waste

Lumber costs can be reduced not only by splicing and optimizing webs, but also by reusing lumber drops. For example, if lumber is 45 percent of a plant's total cost, with a waste factor of seven percent, lumber waste is two percent of total cost. By reducing material waste to 3.5 percent of lumber cost, one percent is added to the bottom line.

When reclaiming drops for use in floor trusses or as wall blocking, this is essentially free material because it has already been charged to a job. Finally, wood waste that is kept

# benchmarks to consider:

- Board foot per design hour
- Net sales per design hour
- Board foot per shop hour
- Board foot per lineal foot
- Board foot per setup
- Board foot per net sales

SBCA's Financial Performance Survey (FPS) also offers key ratios for benchmarking, in addition to income analysis, regional and company, and size breakdown. For more information, visit [sbcindustry.com/annualsurvey.php](http://sbcindustry.com/annualsurvey.php).

clean and free of other trash can be resold for a small profit to vendors looking for wood to grind up for press board products.

## Optimize Chords and Web Lengths to Stock Lengths

Most pricing programs price material to the stock length, meaning a 16' board costs the same as a 14'-1" board. While a good first step is to optimize the lumber used in components to 1-2" less than the stock length to allow sawyers to make accurate cuts, it is not always the best option for the shop if it adds extra members or joints.

Make sure the design department is up to date on price differences between stock lengths of lumber, which change based on the market supply demand changes. If 14' material is \$10/1,000 board foot less expensive than 12' material, it makes more sense to splice a 36' bottom chord with two 14' members and one 8' instead of using three 12' members. Given all the lumber market changes due to design value adjustments, this conversation has taken on new importance.

## Labor

Removing a member from a truss usually will result in both a labor and lumber savings. However, in some cases, this can have the opposite effect. Removing a member may require extra set-up stops to hold panel points or cause shipping issues, which can lead to damaged trusses.

Saving labor in the plant is a matter of seconds. Saving five seconds per truss on the line nets 10 to 15 extra trusses per day. This can work out to \$200,000 dollars of increased production per year for that production line or a cost savings to your customer. That five seconds of labor can come from how a plant handles material, stocks plates, sets up the fixtures, or designs the trusses.

## Saws

Saw setup time, which used to take two to three minutes, now takes less than a minute with computerized saws and setup devices. This eliminates one of the main bottlenecks at the plant. From a design standpoint, it has become less important to match members between truss types to limit the number of setup changes. Additionally, while manual saws had a high learning curve and can take months to learn, computerized saws can be learned in a week.

Nevertheless, improvements can still be made to saw-

ing operations. Matching and aligning webs, matching grades, using standard hip jack spans, and using common splice lengths, help reduce the total amount of setups on the saw and control the number of parts on the production line. Batching components efficiently helps the person staging the saw pick larger quantities to saw at one time.

Material flow from the saw to the production lines is another area where improvements may

be made. Looking at overall benchmarks is important; it may make sense to run one or two workers on a saw at five to six percent less efficient than they could be in order to speed up material flow and make 10-12 production workers two to three percent more efficient.

## Design

The responsibility of implementing many of the aforementioned ideas rests on the design department. Although optimizing jobs may mean adding labor to the design department, there are ways to reduce design time per project.

Design software now includes many optimization tools; however, it can still be a daunting task. It pays to have someone experienced with the software who understands how the default settings impact the unmodified truss design. Significant design time can be saved in the long run by taking the time up front to set default panel lengths, web patterns, splices, plating, web cuts, end conditions and default grades so the initial truss will be as close to optimized as possible.

While default settings and software have given the designer many helpful tools, the human eye is still crucial. Placing trusses systematically and looking for like members through common runs is difficult for current software, but will increase savings.

## Customer

The final product and customer satisfaction are critical when optimizing. A customer building a custom home is likely to focus on a high-quality truss that has minimum deflection, dimensional accuracy, truss design variations to meet architectural design needs, engineering defined load paths and, potentially, larger members. On the other hand, a customer building a tract or multifamily project will probably be more interested in price, lead times, dimensional accuracy and speed of installation.

In addition to making optimization work in the plant, the concept also needs to be sold to end users in a way that meets their specific installation needs. Ease of handling and installation need to remain a priority, along with producing a more efficient truss using less material and plant labor. This is ultimately the true definition of providing a quality product. **SBC**

*To pose a question for this column, call the SBCA technical department at 608-274-4849 or email [technicalqa@sbcmag.info](mailto:technicalqa@sbcmag.info).*





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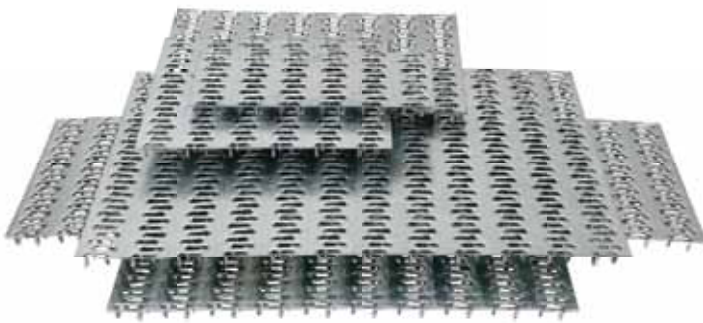
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Planning Ahead”

# Building Codes, Building Relationships

by Sean D. Shields

**R**oger Axel wants to make one thing crystal clear, “The building official isn’t the bad guy.” Axel, one of the presenters in the “Changing Codes and Planning Ahead” educational session at BCMC 2012, is a building official and Executive Officer and Past-President of the Association of Minnesota Building Officials. From that vantage point, Axel makes an intriguing argument to support his claim, “It’s our job to know the building code and to help manufacturers and builders understand the threshold they must meet through the design and construction of a building.”

**In other words, building officials are a very valuable resource.**

“We all have the goal of constructing a safe, sturdy and reliable building,” said Axel. “For building officials, it’s a matter of public safety, but for the manufacturer it means avoiding the headaches of repairs and construction defect lawsuits, and for the builder it means happy customers and a good reputation.” One way to help ensure buildings are designed and constructed the right way from the beginning is through a strong working relationship between all three parties.

## Building Relationships

It is always a good time to start fostering a closer relationship with the building officials in the markets you serve. Offer to speak at one of the upcoming meetings of their local trade association. Invite them into your plant for a tour. Better yet, host a luncheon and give a presentation on a topic you know well—proper installation and use of your products—then follow it up with a truss plant tour.

By making yourself available to your local building officials, you have the opportunity to become the “go-to” person for SBC industry knowledge on how to install and use structural components properly. “As a building official, it’s great when you know where to go to get solid information and answers to questions,” said Axel. “When building officials are inspecting buildings and looking at the plans, it helps if they know where to look to find the information they need.”

Whether it’s details on roof-to-wall connections, the location of hold-downs or roof truss load capacities, building officials sometime struggle to interpret the layouts provided on the jobsite. Axel added, “Having a component manufacturer I know



“Your industry is providing a great approval support service for all building officials through the TER program. It is clear that the goal of the TER is to be an asset for all building officials to help us effectively evaluate proposed design and product innovation.”  
—Roger Axel



I can call to answer my questions helps avoid potential problems, delays and additional trips to the jobsite.”



## Building Codes

That relationship is a two-way street that can provide mutual benefit.

“One aspect of our job is being a problem solver,” said Axel. “We understand the minimum requirements of the code so we can help answer the question of whether a particular application will work, or can be done under the code.”

In addition to helping your designers, they can also help your sales team. If a building official has a strong working relationship with you, and through that relationship has a regularly smooth time inspecting buildings constructed with your products, the builder is going to notice. If you can add that additional time savings to the already long list of advantages components have in framing a building, you’ll make it that much easier to land a sale.

“We can also help you prepare for future design work as changes are made to the code, and avoid potential mistakes when producing products for different states or jurisdictions,” said Axel. He points to the energy code as a prime example. “The new energy codes are a big moving target, but building officials can help in understanding how local amendments may change what the code requires,” explained Axel.

## Building Awareness

“I think that BCSI and the Jobsite Packages your industry creates and provides for every job are very valuable and should be beneficial to installers,” said Axel. “The problem is that on so many jobsites I go to those instructions are not taken seriously.” This is an area where you and your building officials can work together to help educate framers on how it is in their best interest to install and brace the trusses properly, both from an efficiency and a personal safety perspective.

So many of the issues building inspectors see on the jobsite can be attributed to component damage caused either through improper storage and/or handling during installation, or alterations made by other building trades. “That is why builders also need to be included in this relationship building,” said Axel. “They need to see why the good information you provide at the time of delivery is so important to read and understand before they handle your product.”

## Building Construction Innovation

Professional building officials also can be vital proponents of building construction innovation. For example, Section 104.11

of the building code provides the foundation for implementing alternative materials, design and methods of construction. It points out that code provisions are not intended to prevent the installation of any material, or to prohibit any design or method of construction, as long as the alternative is approved by the building official (who is the source of all approvals).

Further, the code states that an alternative material, design or method of construction **shall** be approved when the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of the code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety.

The SBC Research Institute, through its Technical Evaluation Report (TER) program, is committed to helping component manufacturers and the entire building construction industry provide clear and concise language to building officials on how a new product and its design properties fit within the requirements of the code. “Your industry is providing a great approval support service for all building officials through the TER program,” said Axel. “It is clear that the goal of the TER is to be an asset for all building officials to help us effectively evaluate proposed design and product innovation.”

Ultimately, it’s about constructing a building the right way the first time. Believe it or not, the best way to ensure it is designed right from the beginning, your products are installed right on the jobsite, and you avoid costly delays and repairs, is through a close working relationship with your building official. **SBC**

*“Changing Codes and Planning Ahead” will be delivered again as an SBCA Annual Workshop session next spring, welcoming back speakers Roger Axel, CBO, and Paul G Johnson, P.E., UFP San Antonio.*





### Don't know where to begin?

SBCA is a great place to start because many of the resources you may need have already been developed. Simply log onto SBCA's Workforce Development website, [wfd.sbcindustry.com](http://wfd.sbcindustry.com), to find:

- A job opening creation and posting service
- A resume building and posting service
- Roadmaps for manufacturers and school counselors to use in engaging students in the industry
- Presentations for manufacturers to use in promoting careers in the industry
- A structural components industry promotion binder, complete with customizable brochures

Use these SBCA resources to your advantage and begin building your own employee pipeline.



# Our Imminent Labor Shortage

by Ben Hershey

The past five years have been tough on our sector of the job market, but it appears it will get even tougher. The construction industry lost more than two million jobs during the recession, and most economists believe that only half of those employees will come back into our industry. Construction jobs account for only five percent of all US jobs, but were 33 percent of the jobs lost during the recession.

### Do I have your attention?

Further, these statistics are actually masking a more serious problem. Several studies have been done in the past year that estimate about one in five members of the construction workforce will leave over the next three years as baby boomers continue to retire. Add to this the many other individuals who left the construction workforce and found jobs in other market segments over the past five years, and it's easy to see a looming worker shortage.

### A Disappearing Pipeline of Employees

Several surveys and studies have now shown that although we "right-sized" our companies during the recession, as we grow, we are all going to be competing for a smaller pipeline of employees entering our market sector. I'm not just talking about structural component manufacturers, I'm talking about the entire construction industry from developers, architects, engineers, building officials, general contractors, framers, manufacturers and other service related suppliers.

Specific to our industry, we will likely see a high demand/short supply of truss technicians and higher skilled assemblers. According to a McGraw-Hill survey of Architects and Engineers (A&E) done in June 2012, A&E firms are predicting a shortage of nearly 80 percent between the number of individuals entering the workforce to replace those who will be leaving or retiring from their professions. In addition, in many cases we will be competing against contractors and framers who anticipate a similar shortage of about 50 percent. For many hiring right now, it's not that they don't have job openings; it's that they cannot find the right people to fill those openings.

### What Happened to the Pipeline?

Most individuals agree that parts of the construction industry are still suffering from a serious image problem where people think our industry looks the same as it did 30 or 40 years ago. It's important for us to recognize that this image problem, in large part, is really our own fault! We don't do a good job promoting our industry (we hope someone else will take care of this), or, worse yet, we "head-hunt" people from our competitors.



In many cases, the problems we have start in the guidance and career counseling offices of our high schools, tech schools, community colleges and local universities. They do not promote the opportunities in our industry. Instead, they are focused on high-tech labor, service industry positions, and the legal and medical fields. Now don't get me wrong, these are certainly good opportunities, but we also have promising opportunities in our industry. In my research while contacting a representative group of counselors, I found that most of them did not know about our industry, and therefore were unaware of the opportunities we have or the skills that we require.

The good news is we can change this with some creative ideas.

## Use Past Program Successes to our Advantage

Our industry and association have been very successful in promoting what we do with fire and building officials when we use truss plant tours and other programs to educate them. We need to have the same battle plan for our educational system.

For example, David Mitchell with Engineered Building Design in Washington, IA, has made a point to work with the local high school's industrial arts program. "I find that when I work with the teachers, and participate in projects, the students learn about our company and in many cases will apply for positions with us," said Mitchell. Mitchell is in a unique situation in that his county has an unemployment rate of just 3.6 percent, so he has to compete aggressively with other factories and contractors.

You need to not only promote your company at career days, but also participate with students on work projects or local Habitat Build opportunities. What better way to show the valuable and innovative aspects of our engineering and structural component manufacturing industry than to build a house together with students? Many university fraternity systems participate with Habitat each year to build a house. Consider hiring an intern from a college or technical program; companies I have worked for have done that in the past and had great success with it. And in some cases, hiring an intern will also allow your technicians to gain the benefit of a fresh perspective and brush up on CAD skills.

Holding plant tours for a local school, much like we have done for fire and building officials, will allow a teacher to have an example of the material they may be teaching and allow you to educate students on the skills you need. I remember my father giving math teachers (Geometry and Trigonometry) examples of trusses so that they had an application for what students were learning in the classroom.

The key to your company's success is to develop relationships that allow you to learn of potential employees that fit your needs and culture, all while keeping the cost of doing so reasonable.

## Get Creative

As you evaluate ways to reach out to your local high schools, technical colleges and community colleges, consider working



together with SBCA to implement truss plant tours and link key school officials with SBCA's WorkForce Development (WFD) project (see sidebar on page 16). While your private goal should be to develop personal business relationships to support your own employment needs, overall industry growth is dependent on developing a flow of potential employees that exceeds demand.

Local SBCA Chapters can be very effective in working together not only to promote our industry, but to collectively address what will be a major labor issue for all of us. Another avenue of potential personnel supply are other construction associations. Getting tied in with these other organizations serves multiple purposes:

1. You get the chance to promote truss plant tours and provide an SBC industry perspective;
2. You will build a strong network and that can always lead to new relationships whether they be business or employment related; and,
3. You will gain the benefit of WFD ideas from the various groups that you can use in your own business.

One good example of creativity and providing a community service is a program Don Groom, Panel Truss Texas, created with his previous employer where he worked with local prison officials (see photo above and **SBC Magazine**, March 2005) to both use labor inside the prison, but also provide a path for employment post-incarceration. Another closely aligned example is the program Clyde Bartlett of Bluegrass Truss developed that focused on similar rehabilitation concepts.

Make no mistake. We will face a labor shortage soon if we do nothing. However, if we are proactive and creative today, we have an opportunity to mitigate or even eliminate a shortage in our industry. Please become an active advocate, and help your business and our industry turn the tide. **SBC**

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*Ben Hershey is President of 4Ward Consulting and a Past President of SBCA. "Preparing for the Future of Hiring" will be delivered again as an SBCA Annual Workshop session on February 12, 2013.*

*To view the studies and articles used by the author in the development of this article, go to the online version of this article at [sbcmag.info](http://sbcmag.info).*





# What to Measure & How

by Emily Patterson

**S**ometimes in business, so much attention is given to that number on the bottom line that all of the numbers that come before it get lost in the shuffle. This misses an important business opportunity, explained Dan Holland (Clearspan Components, Inc.) and Joe Hikel (Shelter Systems Limited), because ultimately, it's all of those other numbers that make up the bottom line. Building off past presentations they've given on lean manufacturing, Holland and Hikel delved into "Metrics for Managers: What to Measure and How" at BCMC 2012.

## What to Measure

Every component manufacturing plant is unique, but the concept behind metrics remains the same. The purpose of measuring your operations is to improve, maintain and predict results, compare like operation units, and ultimately establish profit predictions in real time. "The most important thing any operator should focus on is understanding their real costs and determining how they are going to compete," said Hikel.

"For me, the top three metrics are material efficiency measures for design, purchasing and production with each being a comparison to the material estimated," said Holland, adding, "Material is our largest cost and the thing we need to know the most about."

To start, managers can focus on an area where they know their plant needs improvement. Examining an issue that significantly affects profit can also be a good starting point because, when the plant improves, it shows employees real-world results that they can buy into.

Holland and Hikel recommend tracking the following on a daily, weekly and monthly basis (see chart):

Daily	Weekly	Monthly
<ul style="list-style-type: none"> <li>• Sales backlog</li> <li>• Productivity</li> <li>• Pricing</li> <li>• Job costing</li> </ul>	<ul style="list-style-type: none"> <li>• Cash flow projections</li> </ul>	<ul style="list-style-type: none"> <li>• Financial statements</li> <li>• Physical inventory</li> </ul>

## How to Measure

Metrics should be individualized for a plant to meet the goals and objectives of that specific business. It is important, however, to consider metrics that allow you to compare your operations to other component manufacturers through the industry's financial performance statistics. Many component manufacturers think sales per man hour (SPMH), sales per board foot, and board feet per man hour are important metrics, while others subscribe to production metrics that track pieces and set ups per man hour.

Job costing, based on real-time labor, inventory and shipping costs, provides a global view of operations and allows managers to drill into highly detailed data. This metric should be activity based and not tied to financial reporting. Meetings structured around job costing are a good way to bring team leaders together to discuss how a loss or gain affects the company. For example, a mistake in the design department can impact production and shipping, resulting in a real dollar amount lost on a job. With accurate job costing, managers are in a good position to map out future growth.

Once you make the decision to use a metric, it's important to stick with it. "This isn't something you do, and then you're through with it, and you never have to do it again," said Holland. "It's a way of life."

"This isn't something  
 you do, and then you're  
 through with it, and  
 you never have to do it  
 again. It's a way of life."  
 —Dan Holland

# questions to consider:

## Material Purchasing Efficiency

- Did we buy the materials at the price we estimated?
- Did we buy different materials than we estimated?
- Did we buy the amount of material we estimated?

## Material Content Design Efficiency

- Did the design department use more material than we estimated?
- Did the design department use different material than we estimated?
- Did the price of materials go up or down since we estimated the job?



## Material Content Shop Efficiency

- Did the shop use more material than we designed?
- Did the shop use different material than we designed?
- Did the price of material change since we designed the job?

Goals and expectations are never static; they change from day to day. It's important to reevaluate expectations on a quarterly basis and build in incentives to reward and motivate employees. "For example, we bonus production employees on the positive variance between expected throughput and actual using dynamic SPMH as the metric. We bonus managers on the profitability of the company," explained Hikel.

There are many benefits to measuring operations at your plant, but there can be pitfalls. Measuring can be very expensive. Whenever possible, automate measuring systems and get rid of any obsolete systems. "Do not hesitate to make changes or stop doing a measurement if it is not useful," said Holland. "Obsolete activities are very expensive." Another thing to be aware of is the Hawthorne Effect, the tendency for people to adapt to a measuring system and then work toward making the benchmark look great, which distorts information in a way they believe will serve them.

Inevitably, measuring affects the people and processes being measured. Managers want to make sure the change is positive (increased productivity, savings) and not negative (time consuming, demotivating to employees). Even if a positive or negative change appears small, it will ultimately affect that big number for all businesses—the bottom line. **SBC**

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From BCMC 2012  
Educational Session:  
“Lumber Production, Grading &  
Design Values Part 2:  
From Stick to Truss”

“One of the first things I want to do after coming back from BCMC is visit my local component manufacturing facility and sit down with their designers. I know I need to better understand what design values they really rely upon in the wood they use and what lumber defects they have the most problems with.”  
—David Richbourg

# Getting Better Grades

by Sean D. Shields & Kirk Grundahl, PE.

**D**avid Richbourg knows a lot about lumber. He should, he’s been in the forest products business for almost 40 years. He’s currently Plant Manager of H.W. Culp Lumber Company in North Carolina, and yet he still left the BCMC show with a whole new perspective on lumber from the standpoint of the component manufacturer.

“After giving the presentations and talking with component manufacturers, it was clear there is probably a better product we can make to meet the component industry’s needs,” said Richbourg. That statement is nothing short of revolutionary, because it points toward a profound shift in the relationship between lumber producers and component manufacturers. To fully appreciate what it could mean, we need to look deeper into the concepts behind Richbourg’s sentiment.

## It Starts with Lumber Properties

Probably the best outcome of the Southern Pine lumber design value change process over the past year is the lines of communication it has opened between lumber producers and component manufacturers. Through those discussions, there has been a clear focus on the fact that anyone who buys lumber for engineered end uses is actually buying lumber strength properties and related characteristics that help to resist applied loads. Builders, framers and the structural building components industry all know the dependence we have on our ability to obtain reliable and accurate design values.



“One of the first things I want to do after coming back from BCMC is visit my local component manufacturing facility and sit down with their designers,” said Richbourg. “I know I need to better understand what design values they really rely upon in the wood they use and what lumber defects they have the most problems with.”

Richbourg is quick to point out that there is a limit to what he can produce. The logs coming in from the tracts of land they won the bid to harvest largely dictate the size and strength of dimensional lumber they can produce. That being said, each mill has flexibility to seek out and produce lumber with particular lumber properties if they are specifically looking for them.

## Strength Left on the Table

Mike Kozlowski, P.E., President of Apex Technology in Florida, talks about how different lumber properties can affect the design of the component depending on the application and span. “There are several forces at work within a component, from compression and tension forces to bending and shear forces,” said Kozlowski. “For example, while lower span trusses typically see lighter stresses and can take advantage of lower grades, long span floor trusses require high tensile strength lumber at the bottom chord.”





Kozlowski said one of his takeaways from his discussions with lumber producers is that a typical visual grading of a lumber group results in roughly three grades. While on the other hand, MER or MSR results in better precision and upwards of seven grades. "In other words, the lack of precision in visually graded Southern Pine (SP) #2 means you end up leaving a lot of strength on the table."

Kozlowski's belief is that the silver lining of the SYP down-grade is the potential increase in precision. "If the component industry can better collaborate with its lumber suppliers, and attain higher grades for select usages, the component industry can create an even greater advantage over code prescribed construction," said Kozlowski.

### Grading for Truss Applications?

"Right now, we as lumber producers need to understand what the key elements of design are," said Richbourg. He acknowledges it goes beyond just strength properties; it's also impacted by lumber quality. "I appreciate more fully how wane and knots have an impact at the component joints and how it affects plating."

So what's the next step? Through collaborative efforts like the three educational sessions on lumber given at BCMC, SBCA's Lumber in Components Council (LCC) is focused on facilitating meaningful and in-depth conversation about the business challenges and opportunities that exist between lumber producers and component manufacturers. By taking a less conventional approach, LCC's goal is to strip away perceived barriers to conversation and foster direct and honest conversation at the entrepreneurial level.

"Right now, the grades that are out there aren't exactly what component manufacturers need or want," said Kozlowski.

"However, if lumber producers understand exactly what manufacturers are looking for, it may not be a massive change to look for it and grade it that way," responds Richbourg.

### Next Steps

A strong understanding of the business needs and interests of these two different, but mutually necessary, businesses will not be arrived at overnight. However, the LCC will continue to foster an environment where forthright discussions can take place that will make a big difference in the future of both industries.

First, the LCC is currently planning a second Lumber Summit to be held early in 2013 to bring lumber mill owners and decision makers and their component manufacturer peers back to a forum to continue the discussions that began earlier this year in Charlotte, NC and at BCMC in New Orleans, LA. This summit will also allow for valuable one-on-one company meetings, as well as opportunities to discuss mutual actions going forward that will be beneficial to both industries.

Second, the LCC is in the process of collecting and analyzing lumber size, grade, and truss and wall panel use data with the intent of publishing ongoing lumber benchmarks that will shed light on how the components industry is utilizing lumber. These benchmarks will help both industries understand better what has been done in the past, as well as what opportunities exist for the future.

As one of the Co-Chairs of the LCC, Richbourg's mission for the council is to foster open and effective communication between lumber producers and component manufacturers in order to address challenges and promote innovation between the two industries for mutual benefit. **SBC**



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# parting shots

Share your stories and photos with us! Send submissions to [partingshots@sbcmag.info](mailto:partingshots@sbcmag.info).

It was nothing but sunny skies (a first!) at the BCMC Build jobsite in New Orleans this October. In just one and a half days, a team of volunteers from the structural building components industry framed this three-bedroom home. The future homeowners, Karen and Theodore Williams (pictured at right), were on hand to watch the construction and meet everyone involved in the project. After the show, they posted their thanks on Facebook:

"We will truly miss all of the volunteers from BCMC. Thanks for making our dream a reality. We love y'all and God bless every one of you."

For more on BCMC Build 2012, visit [bcmcbuild.com/whydonate.php](http://bcmcbuild.com/whydonate.php) and [bcmcbuild.com/photo-gallery.php](http://bcmcbuild.com/photo-gallery.php). **SBC**



To save time and forego working on ladders, the walls for the Williams' home were built on the ground and then hoisted into place.



By evening, the roof was installed on the Williams' home.

The staff of  
SBC Magazine  
wishes you &  
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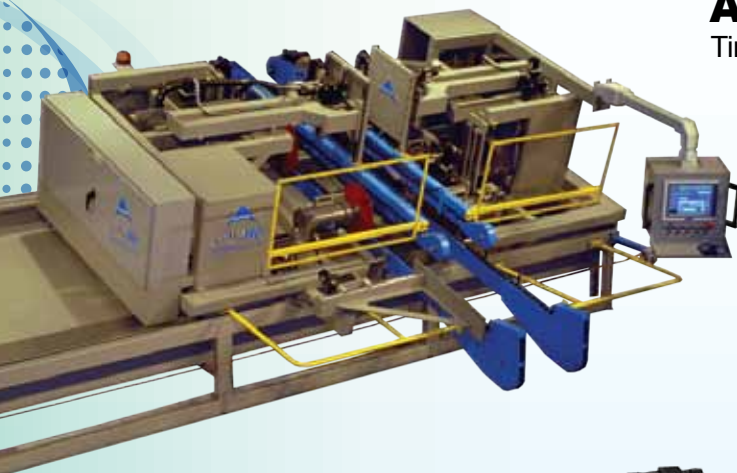


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