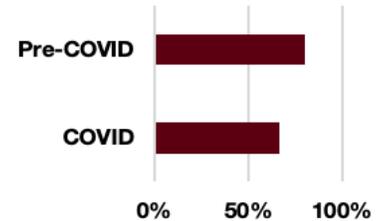


## TRENDLINES

### Principals' PTO taken



Principals in Zweig Group's [2021 Principals, Partners & Owners Report of AEC Firms](#) were asked about how much paid time off they accrue per year and how much of that PTO they actually use. The standout breakdown came when creating "Pre-COVID" and "COVID" eras considering the stricter travel policies put in place among AEC firms. Principals who took the survey in the first three months of 2020 took a median of 80 percent of their allowed PTO. Principals since then have taken about two-thirds of their allowed PTO. This ended up being a difference of about four PTO days.

[Participate in a survey and save 50 percent on the final or pre-publication price of any Zweig Group research publication.](#)

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## Scaling up

The principles of Organizational Project Management can guide a firm through the steps of scaling an organization.



Stephanie Warino

**P**rojects and project managers are the foundation of our industry. And good project management determines the success of our firms.

During the past 16 years in the consulting space, I've worked in firms ranging in size from 20 people to 20,000 people as a staff member, in project management, and at the management level, and I've witnessed periods of growth, stability, and decline. One thing I can tell you is that one of the most important responsibilities of AEC firm leadership is to intentionally design their firm's organizational structure around excellent project delivery.

The Project Management Institute body of work explains the theory behind this. The basic drivers of Organizational Project Management can guide a firm through the steps of scaling an organization.

The PMI's Project Management Body of Knowledge allowed me, as a longtime project manager, to articulate the concepts that we learn on the job in a more practical, catch-as-catch-can way. One of my favorite quotes from the PMBOK is:

"OPM advances organizational capability by linking project, program, and portfolio management principles and practices with organizational enablers (e.g., structural, cultural, technological, and human resources practices) to support strategic goals."

I really like the term "organizational enablers," and as a strategic planning advisor to AEC firms, I think it makes a lot of sense to look at things from the ground (i.e., project) up. Let's unpack the structure part of this, because for a project to be successful, structure is one of our most influential organizational enablers. Structure is an organizational enabler that drives culture and influences technological and human resources practices. The following are some structures as defined by the PMBOK and some real-life observations of the results of those organizational enablers.

The PMBOK defines two structures that are not always readily applicable to the AEC space:

- **Projectized organization.** In projectized organizations, staff are grouped into project teams that only work together to deliver projects, with the personnel manager managing all the projects. For clients that have either very long-term projects or a few clients with very consistent scopes, I could see that working.

See STEPHANIE WARINO, page 2

STEPHANIE WARINO, from page 1

■ **Strong matrix organization.** Project managers are all contained within one functional group, and supporting staff are in their own functional groups. I think it could work for large projects that require full-time project management and also need a lot of varied technical resources, but it could make it difficult for technical staff to advance to project management.

However, most organizational structures are more nuanced, and scaling patterns in AEC firm growth sometimes emerge in this way:

- **Functional organization.** In a smaller firm, or the smallest management unit of a large firm, you'll see a functional structure – they are what they sound like, staff grouped by specialty. That can work well, if the functional manager performs all project management duties, and if functional managers collaborate. Sometimes when there is not intentional scaling, a functional structure can evolve into a weak matrix organization, where the leader becomes somewhat disconnected from project work, and when cross-functional collaboration with another department becomes challenging.
- **Weak matrix organization.** Project management happens at the functional manager level, and most project coordination is done at staff level. The issue here is that no one at the staff level really has the authority to make or enforce any decisions. How crazy can this get? In the past, I had a staff member in another department working on my project, who balked at my request for project documents their department was producing. They thought that “piece” of it was “their project.” Whoa, folks. It's the client's project, right? So, if organizational evolution is left unchecked, the eventual result is that the strongest personalities emerge as up-and-coming leaders.
- **Balanced matrix organization.** In the balanced matrix organization, the project manager is at staff level, as opposed to manager level, as in the weak matrix organization. If there is good organizational change management, an intentional plan would be in place to evolve a functional organization into a balanced matrix organization. In the PMBOK's view, the balanced matrix doesn't give the project manager full authority over the project and the project funding. From the AEC industry perspective, I disagree with that in at least one respect – I think that authority is conditional and dependent on cultural factors, including the importance placed on good project management as well as the importance placed on client experience.

This really all depends on the size of the organization, too. If you have an organization with a deep hierarchy, you may see these structures layered upon one another (the PMBOK calls this a composite structure). For example, you may see a set of functional management units that act as a “balanced matrix organization,” with the next management level being more “projectized” (think of this as locations, perhaps) overlying it, grouped into a “projectized” business units at the top. Understanding your organizational enablers, especially organizational structure evolution, and managing it intentionally, are key to designing around excellence in project delivery.

If you're interested in learning more about improving project management, check out the following resources from Zweig Group:

- [Project Management for AEC Professionals](#) is a new virtual seminar for project managers led by a panel of three experts. This course will take the guesswork out of leading your team and help develop project leaders who are equipped with practical, science-backed skills to empower their teams to achieve and surpass their goals.
- Zweig Group is currently collecting data in the [Project Management Survey of AEC Firms](#) for the [2021 Project Management Report](#). Participate and save 50 percent on this important resource. ▀

STEPHANIE WARINO is a strategic planning advisor with Zweig Group. Contact her at [swarino@zweiggroup.com](mailto:swarino@zweiggroup.com).

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## THE ZWEIG LETTER

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## Are you rewarding the wrong heroes?

There are a lot of heroes in our companies, but some are less noticeable. Their successes are quieter and less dramatic, but no less valuable.



Keyan  
Zandy

**W**e wear our long hours as a badge of honor in our industry, swapping tales of how we saved the day and what we endured to rescue a project from the jaws of failure. Throughout my career, I've shared war stories and heard my mentors', peers', and employees' stories of how they solved critical issues on their wedding days or anniversaries, and even how they worked through the births of their children or grandchildren. Lost weekends, late nights, cancelled vacations, skipped birthday parties, and missed recitals or sporting events are portrayed as positives – hero stories as proof of selfless sacrifice. And then, when the deadline is met or the obstacle is overcome, those sacrifices are verbally appreciated, publicly celebrated, or even rewarded through promotions.

While I am always grateful for the efforts made to “save the day,” what I can't get away from is the thought that this kind of reward-based perspective only reinforces the kinds of unhealthy, burnout-inducing behaviors we should want to help our people avoid. Worse, it normalizes the dysfunction or inadequacies that created the crisis, as though we should accept them as an inevitable part of our business. While it's impossible to prevent everything that could possibly go awry – or that might require someone to go above and beyond to make right – when these things happen, we really should ask this question: What went wrong?

Or, asked differently: How could this have been prevented? Because looking for the root cause of problems in the post-mortem is great, but preemptively addressing them is much better. So, one thing I am trying to get better at is making sure we're appreciating the other heroes in our company – the less visible ones, who are fighting fires in a very different way. Here are a few ideas around how we can do that:

■ **Reward those who excel with planning their projects well.** Look for ways to identify and

See KEYAN ZANDY, page 4



## ON THE MOVE

### PERKINS&WILL TEAMS WITH BUILDING TRANSPARENCY AND C CHANGE LABS TO DEVELOP NEXT GENERATION CARBON REDUCTION TOOL

A team of design leaders at global architecture and design firm **Perkins&Will**, in collaboration with C Change Labs and Building Transparency Canada, has been awarded a grant to develop a tool that facilitates the design of low-carbon buildings. The Tally Climate Action Tool will build on existing technologies to provide open, real-time access to material and product information within design software, making it easier and faster to choose low-carbon material options.

The CleanBC Building Innovation Fund from the Province of British Columbia awarded \$460,000 to the team as part of its mission to fund projects in British Columbia that accelerate the availability and affordability of low-carbon building solutions. With an anticipated release date of March 2023, tallyCAT will provide open access to a library of materials that merges into commonly used BIM platforms, like Revit and Rhino.

“Our goal is to make it easy for designers to understand the climate impacts of their material choices through a plug-in palette of lower carbon products,” says sustainable building advisor Manuela Londono of Perkins&Will.

**Tracking carbon reduction in real time.** Currently, BIM platforms lack real-time information on material performance and Environmental Product Declarations – the primary way for designers to track and reduce carbon in specific products. After development, tallyCAT will be a globally available, integrated plugin for designers to access within their BIM

software to source Building Transparency’s existing global catalog of EPDs.

“To meet the increasing demand from clients to lower the carbon profile of their projects, tallyCAT will help teams optimize and track material quantities more accurately,” says architect Jesse Walz of Perkins&Will. “And ultimately, using less material reduces both carbon footprint and cost.”

The tool dovetails with existing efforts in reducing carbon impacts. Building Transparency and C Change Labs have already demonstrated success with the Embodied Carbon in Construction Calculator – an tool for measuring and comparing embodied carbon in construction materials.

“We recognize that EPDs take effort to establish and are working to make it faster and more affordable for manufacturers to declare their impacts,” says Phil Northcott, CEO of C Change Labs. “Meaningful change in this space must come about through industry-wide collaboration.”

Building Transparency also recently added Tally, a Life Cycle Assessment app that quantifies and analyzes carbon locked in building materials, to its portfolio. The app helps to mitigate the carbon risks in buildings before they are built, rather than after they are constructed. The next generation tallyCAT tool will leverage the capabilities of Tally and EC3 directly within BIM modeling programs like Revit, making carbon reduction an active part of the building process.

“Bringing these resources together to create an advanced open-access tool is the natural next

step to fostering a better building future across the industry,” says Stacy Smedley, executive director and chair of Building Transparency.

**Fostering sustainable evolution of the building industry.** As one of the pilot partners involved with testing the EC3 tool, Perkins&Will has played a key role in changing the way embodied carbon disclosure and product specification is done in the industry.

“Through this partnership with C Change Labs and Building Transparency, we can leverage our collective knowledge to transform the building industry so that low carbon materials become the status quo,” says Elton Gjata, a digital practice manager at the firm.

Sustainable design has always been critical for tallyCAT’s three contributors. But now more than ever, it is a defining factor in how builders, owners, and tenants measure success. As the importance of sustainability grows, the tallyCAT team is leading the next frontier through research, tool development, and design.

“This grant would not have been possible without the support from industry partners and clients who recognized the need for this climate action tool,” says Kathy Wardle, director of sustainability of Perkins&Will’s Vancouver studio. “The next step in this journey is to combine our expertise in materials and the design process into a digital tool that serves the entire industry.”

Perkins&Will, an interdisciplinary, research-based architecture and design firm, was founded in 1935 on the belief that design has the power to transform lives.

KEYAN ZANDY, from page 3

recognize those who are proactive with problem-solving and prepare their work accordingly. Find champions within your firm who excel with planning in the various aspects of their projects and let them share their tools, processes, and logic so others can see what successful planning should look like from the start.

“While I am always grateful for the efforts made to ‘save the day,’ what I can’t get away from is the thought that this kind of reward-based perspective only reinforces the kinds of unhealthy, burnout-inducing behaviors we should want to help our people avoid.”

■ **Publicize the hero stories where the dragon was strategically averted instead of fought.** Let your team publicly share how they foresaw an issue and avoided or minimized it; quarterly meetings are great opportunities for this. Elevate those who display evidence of their smart

preparation and consideration, and celebrate those kinds of wins just as enthusiastically. (And be sure to document those valuable lessons learned for future sharing, so those stories don’t get lost.)

■ **Make sure you don’t celebrate long hours.** The next time someone pulls an all-nighter, help them explore what got the project into that predicament to begin with. An unreliable schedule? Not holding trade partners accountable? Rework? Working hard and serving with passion are different from being unprepared and putting the project team in a position where everyone needs to work twice as long to save the day. Let them see that you care more about how they could have prevented the crisis than about how they resolved it.

**A consistently healthy work/life balance will always be a challenge in our industry, but that doesn’t mean we can’t challenge the status quo and do better. That starts with looking at the routine behaviors we have established, the norms we have accepted without thinking, and the assumptions we subconsciously make. There are a lot of heroes in our companies but not all of them are so visible, because their successes are quieter and less dramatic, but no less valuable by any means.** ■

KEYAN ZANDY is chief operating officer for Skiles Group. Find him on [LinkedIn](#).



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## PROFILE



## A chance to learn: Bruce Herrington

President of Line Scale Form (Birmingham, AL), a firm with a goal of providing clients with designs that are exceptional and practical – visually, fiscally, and functionally.

By LIISA ANDREASSEN  
Correspondent

**W**hen he founded Herrington Architects in 1995, Herrington was setting out to showcase his architectural talent by serving Birmingham and the southeastern United States. What began as a one-man shop focused on multifamily projects has morphed into a studio of nearly 10, pursuing multifamily, commercial, and mission critical work. Today, the firm has a new name – Line Scale Form.

“What I’ve learned so far is that I understand that none of the people being brought on will be exactly like me,” Herrington says. “We all have different interests and abilities and that’s a good thing. It’s good to have more than one person at the helm. Give them a chance to learn now with an opportunity to do tasks with oversight and the ability to adjust.”

### A CONVERSATION WITH BRUCE HERRINGTON.

**The Zweig Letter:** You founded Herrington Architects in

**1995. When did you change the name to Line Scale Form and what was the reason for the name change/rebrand?**

**Bruce Herrington:** Well, I’m not getting any younger and I decided it was time to start thinking about some retirement planning options. So, after 25 years of business, I formally expanded the firm’s leadership and ownership to some of my employees. Now, with a broader range of experience and talent, the firm is stronger for it – more diverse. While, I’m not planning to retire anytime soon, we’re better prepared now. In addition to myself, there are three other partners and with that change came the need for a name change too. A branding firm helped us choose the name and we liked it because it was all encompassing. It communicated design, youth, and energy.

**TZL:** How much time do you spend working “in the business” rather than “on the business?”

**BH:** I spend about 30 percent of my time working in the

business and 70 percent on the business. I'm a managing partner and handle mostly the financial aspects. All three partners are vice presidents and have different focuses. One is the director of marketing and business development. One is the director of studio and the other is director of operations.

"At the onset of the pandemic, we worked at home for 10 weeks and then went to a 50/50 arrangement ... This experience has made us more open to working virtually and staff appreciates the flexibility that provides."

**TZL: Trust is essential. How do you earn the trust of your clients?**

**BH:** Trust has to be earned. Trust can also be lost. At the beginning of a project, we have a long conversation with the client. I want to know all about their business – processes, enhancements, changes, etc. I want to know how they need to operate and what will help them to do and work better. I want to know – for them – what will define project success. I want to know what concerns keep them up at night. And then, we figure out – together – how we can resolve those concerns. During the job, it's important to stay on task, communicate, be consistent, and accurate. It needs to be a fluid and ongoing process throughout the duration of the job.

**TZL: Are you using the R&D tax credit? If so, how is it working for your firm? If not, why not?**

**BH:** For a number of years, we did not take advantage of this. We were a C-corp at the time and it didn't work too well. About five years ago, we transitioned to an S-corp which has a flow-through function. We can now use that tax credit more efficiently.

**TZL: Does your firm work closely with any higher education institutions to gain access to the latest technology, experience, and innovation and/or recruiting to find qualified resources?**

**BH:** We're not currently connected to a university, but we do have connections for recruiting personnel. Four years ago, we decided we wanted connections with a university, but there's no architecture school in Birmingham. So, as a graduate of Mississippi State, I created a design award

competition for the school's students. The award provides a financial reward and it's also something students can put on their resume. It's the "Line Scale Form Design Award" and the firm's partners are the jurors. From this, we hired one individual two years ago and another student approached us and wanted to come in and talk. It helps to get our name out there.

**TZL: How often do you value your firm and what key metrics do you use in the process? Do you value using in-house staff or is it outsourced?**

**BH:** We value the firm to understand the value of stock. If we ever want to sell to another group, we want to ensure we have accurate numbers. We determine the net service revenue and divide by two. For the past three years, it's been very fluid. We do everything in-house; nothing is outsourced.

**TZL: Ownership transition can be tricky, to say the least. What's the key to ensuring a smooth passing of the baton? What's the biggest pitfall to avoid?**

**BH:** We haven't fully transitioned. What I've learned so far is that I understand that none of the people being brought on will be exactly like me. We all have different interests and abilities and that's a good thing. It's good to have more than one person at the helm. Give them a chance to learn now with an opportunity to do tasks with oversight and the ability to adjust.

"At the beginning of a project, we have a long conversation with the client. I want to know all about their business. I want to know how they need to operate and what will help them to do and work better. I want to know – for them – what will define project success."

**TZL: Your website states: "Inspiration and implementation give a structure lasting appeal." Tell me a little more about what that means.**

**BH:** It ties into our mission of balancing concept, cost, and craft. We inspire the concept and implement the craft.

See A CHANCE TO LEARN, page 8

# LINE SCALE FORM

**HEADQUARTERS:** Birmingham, AL

**NUMBER OF EMPLOYEES:** 8

**YEAR FOUNDED:** 1995

**NUMBER OF OFFICE LOCATIONS:** 1

## SECTORS:

- Multifamily: Line Scale Form strongly believes housing is the foundation for communities. The firm's goal is to create socially conscious places that people value and are proud to call home.
- Commercial: Line Scale Form is passionate about the city in which its people live and work. They enjoy helping clients create buildings that both strengthen the urban fabric and foster a sense of place.
- Mission critical work: Line Scale Form understands the design of these complex facilities requires technically proficient teams to ensure continuous operation and steadfast reliability.
- Institutional: Line Scale Form has been a part of projects ranging from student residence halls, libraries, student unions, elementary schools and retail developments.

## LINE SCALE FORM'S PROMISE TO

**CLIENTS:** We leave our egos at the door.

## BUSINESS NEWS

**WARE MALCOMB ANNOUNCES CONSTRUCTION IS COMPLETE ON THE CHICAGO DIRTT EXPERIENCE CENTER** Ware Malcomb, an award-winning international design firm, announced construction is complete on the Chicago DIRTT Experience Center, an immersive experience center located at 325 N Wells St. in Chicago. In collaboration with DIRTT, Ware Malcomb provided interior architecture and design for the project.

Located in the heart of Chicago, the DXC's 8,700 square foot remodel focused on creating a unique experience for each guest who walks through the doors. Inspired by the Chicago roadway grid, where the streets Lincoln, Clybourn, Milwaukee and Grand break the grid to provide efficient alternatives, the reimaged DIRTT Experience Center is intentionally designed to celebrate the framework DIRTT provides as they break barriers in building through off-site construction.

The project's vision was solidified after an in-depth envision session with key DIRTT stakeholders. From concept development to construction and digital content strategy, the Ware Malcomb team worked in collaboration with DIRTT to design a space which delivers a strong narrative, helping guests understand a spectrum of possibilities.

The design goals for the project included creating visual continuity throughout the space and adding vignettes. These goals were achieved with the installation of a dynamic mezzanine to hosting areas and the innovation lab. The mezzanine was designed in an angular outline to tie back to the local city grid and to draw attention to the two-story volume when entering the space. Each space showcased problem-solving, human-centered approaches. The healthcare vignette is open and bright, and purposefully submerges

guests into the patient journey including a virtual reality gathering space featuring a 170-inch nanolumens screen and entertainment zone.

DIRTT featured cutting-edge frameless glass solutions in office and huddle settings and highlighted the high acoustical quality in strategically placed phone booths. The immersive space elevates the guest experience by sharing how DIRTT enables design freedom, and delivers total certainty in cost, schedule and outcomes.

"The reinvented DXC features architecture and experiential elements showcasing DIRTT's industrialized construction approach which enables total design freedom and life-cycle adaptability," said Dawn Riegel, Director, Interior Architecture & Design of Ware Malcomb's Chicago and Oak Brook offices. "We teamed with DIRTT throughout the entire project process to define a dynamic concept to engage with visitors and employees alike."

Jennifer Warawa, chief commercial officer at DIRTT said, "Our Chicago space demonstrates the freedom and possibilities of designing with DIRTT. We look forward to welcoming clients into this space and engaging the design community in new conversations about the future of industrialized construction and how it helps achieve their goals. The continued investment in our facilities demonstrates DIRTT's confidence in the market."

The Chicago DXC was completed during the pandemic and showcases exactly how spaces can be built for ultimate resiliency and relevance. It is open now for client tours. DIRTT will be hosting its annual Connex event between 3-5 October, to coincide with North America's largest commercial interiors show.

The general contractor for the project was Clune Construction.

DIRTT is a building process powered by technology. The company uses its proprietary ICE software to design, manufacture and install fully customized interior environments. The technology drives DIRTT's advanced manufacturing and provides certainty on cost, schedule and the final result. Complete interior spaces are constructed faster, cleaner and more sustainably. DIRTT has manufacturing facilities in Phoenix, Arizona, Savannah, Georgia, Rock Hill, South Carolina, and Calgary, Alberta. The company works with distribution partners throughout North America. DIRTT trades on the NASDAQ under the symbol "DIRTT" and on the Toronto Stock Exchange under the symbol "DRT".

Established in 1972, Ware Malcomb is a contemporary and expanding full service design firm providing professional architecture, planning, interior design, civil engineering, branding and building measurement services to corporate, commercial/residential developer and public/institutional clients throughout the world. With office locations throughout the United States, Canada and Mexico, the firm specializes in the design of commercial office, corporate, industrial, science and technology, healthcare, retail, auto, public/institutional facilities and renovation projects. Ware Malcomb is recognized as an Inc. 5000 fastest-growing private company and a Hot Firm by Zweig Group. The firm is also ranked among the top 15 architecture/engineering firms in Engineering News-Record's Top 500 Design Firms and the top 25 interior design firms in Interior Design magazine's Top 100 Giants.

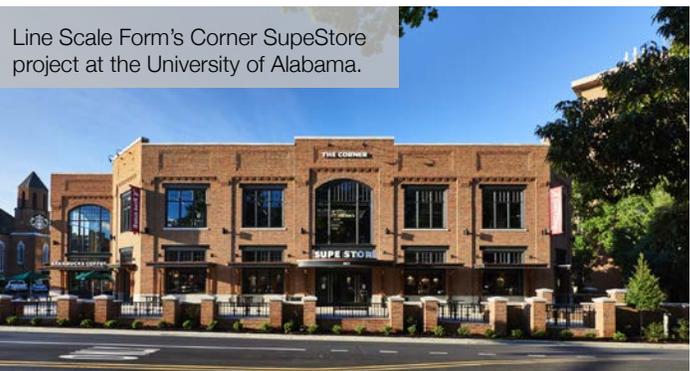
A CHANCE TO LEARN, from page 7

**TZL: How many years of experience – or large enough book of business – is enough to become a principal in your firm? Are you naming principals in their 20s or 30s?**

**BH:** As it turns out, everyone has had at least 10 years' experience, but I did not look at that when I set out to find partners. We have no one in their 20s, but we do have some in their 30s. It's more about skill set and leadership. These people have proved that in their management style and have shown good communication at all times.

**TZL: A firm's longevity is valuable. What are you doing to encourage your staff to stick around?**

**BH:** We give respect to each other and provide opportunities to grow and learn. After that comes more responsibility and authority. We also have a great benefits' package and compensation. At the onset of the pandemic, we worked at home for 10 weeks and then went to a



50/50 arrangement. Half of the office came in on Monday and Tuesday; the other half came in on Wednesday and Thursday. Friday was open to anyone who wanted to get out of their house. This experience has made us more open to working virtually and staff appreciates the flexibility that provides. ▀



## Keep it simple

Explaining things in overly technical terms could result in your message getting lost, so find ways to simplify so the most important ideas are grasped by everyone.



**Seth  
Carlton**

**W**hen I first started working as a structural engineer, I was fortunate to live only three blocks away from our office in downtown Dallas. Being so close to work was great, but one of my favorite things to do during those early years was take long aimless walks through downtown on the weekends.

Sunday mornings were best because the streets were empty. It gave me ample space to stop and admire the details in so many of the beautiful buildings that make up the cityscape. Some of my favorites are the Adolphus, Magnolia, and Dallas Power and Lights buildings, all within close proximity to each other. Their ornamental facades are each unique and have stood proud for decades. As a young engineer I was in awe of how complex these buildings appeared to be. I wondered how long it would take before I “got it” and could wrap my head around the design of a building.

Fast forward a few years and I had learned a thing or two about design, but was less experienced with the detailing and coordination required to put a set of construction documents together. The problem had only grown more complex once

I started working with other disciplines, trying to understand their systems and how they would interact with my design. I remember my boss telling me over and over to just “draw what you know,” which was great advice. When doing this, not only does the complexity of the problem melt away, but it also becomes clear what information is lacking. That becomes a jumping off point for asking questions, seeking answers, and not overcomplicating the design.

Buildings these days are documented with thousands of details across a construction set that is often hundreds of pages long. I think back to those old buildings I admired on my Sunday walks and wonder how they turned out so well

See SETH CARLTON, page 10



## ON THE MOVE

### JEFF HILL JOINS KLEINFELDER AS EXECUTIVE VICE PRESIDENT AND EAST DIVISION DIRECTOR

The Kleinfelder Group, Inc., a leading engineering, construction management, design, and environmental professional services firm, announced that Jeff Hill has joined the firm as executive vice president and East Division director. Hill, who will be based in Kleinfelder's Pittsburgh, Pennsylvania office, will oversee operations throughout Kleinfelder's East Division and lead the firm's talented staff toward profitable growth.

"Kleinfelder's East Division is poised for significant growth with our existing and emerging markets and service engagements," said president and CEO Louis Armstrong. "With Jeff joining our leadership team, we are eager for him to apply his exceptional strategic and operational leadership skills to drive success across the East Division and create new opportunities for our staff."

With more than 30 years of AEC industry experience, Hill is a strong leader who focuses on strategic plan development and implementation, operational leadership, and talent management and engagement. Hill has successfully led business operations and strategic direction for more than 2,700 technical and administrative resources that supported engineering, business development, intelligence, and technology solutions for a business unit that generated over \$600 million in revenue annually. Additionally, Hill is a people-driven leader who cultivates engagement, staff retention, and opportunities to develop new leaders and technical experts in the AEC industry.

"Kleinfelder has a well-deserved reputation as a leading firm within the industry that is committed to technical excellence and exceptional client service," said Hill. "With the East Division strategically aligned to achieve

ambitious growth targets, it's a very exciting time to be joining the firm. I look forward to supporting the Division's growth in diverse market sectors and fostering the culture of innovation that is fueled by the firm's talented staff."

Hill holds a bachelor's degree in environmental health from East Carolina University and an MBA from Point Park University. Hill is also designated as an Entrepreneurial Fellow from the Katz Graduate School of Business at the University of Pittsburgh.

Founded in 1961, Kleinfelder is an engineering, design, construction management, construction materials inspection and testing, and environmental professional services firm. Kleinfelder employs more than 2,400 professionals and operates from more than 85 office locations in the United States, Canada, and Australia. The company is headquartered in San Diego, California.

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when their drawings were much simpler. In fact, I have worked on some existing buildings where the structural drawings consisted of fewer sheets than the number of floors in the building. Instead of adding countless details and pages, architects and engineers in those days had the discipline to communicate their designs succinctly. When reviewing those old drawings, I am often amazed at how comprehensive the designs were compared to today's standards. Today, our tools make it easier to change things on a whim and keep adding more information, which often serves to make the project overly complicated and introduce more contradictions. Ultimately, we miss the forest for the trees.

Albert Einstein once said, "Everything should be made as simple as possible, but not simpler."

"Clearly communicating the core design goals and expectations establishes guideposts that can be referred to later when things become unclear or roadblocks are encountered."

When working on a multi-disciplinary team, simplifying ideas is critical to effective communication. Explaining things in overly technical terms may mean the message is lost, so it's better to find ways to simplify and ensure the most important ideas are clearly grasped by everyone. It is also important to make sure the team is on the same page from the start. Clearly communicating the core design goals and expectations establishes guideposts that can be referred to later when things become unclear or roadblocks are encountered. As a structural engineer working for architects, early sketches and renderings are invaluable to understanding the look and feel of a space. So, when it's months later and the design isn't coming together quite

as planned, I go back to those simple ideas and images and reevaluate. Don't be afraid to walk a design back a bit if it leads to a better solution.

This happened recently on a project with dramatic, 30-foot cantilevers on all sides of the building. Roof slopes were established early in design development and the structural framing was laid out to suit the slopes. As design progressed and the framing was more accurately sized, it became clear there were multiple locations where structural depth at these cantilevers was going to be an issue. Faced with the uncomfortable choice between sticking with the current roof design or scrapping it and starting over, we chose the latter. Had we stuck with the original layout, it would have required lots of custom designs and details that would still struggle to fit within the architectural envelope. Even though the redesign affected more disciplines, it was the right choice for the project. Ultimately, the redesign led to fewer and simpler details as well as a decent reduction in steel tonnage. I would wager that the time lost to rework will be saved many times over since a simpler and more elegant design was ultimately achieved. The reason the redesign was successful was because we had done enough work to know what wouldn't work and we chose to honor the original design intent rather than force a square peg into a round hole.

The design process is non-linear and meanders from here to there, not unlike those Sunday walks in downtown Dallas. Complex systems are built of simple components and elegant designs are built of simple ideas, layered and interacting in unique ways. Keeping things simple and focusing on the core ideas is the best way to get back on track when the design starts to become convoluted. If you find yourself off track, remember where you started and remind yourself what matters most to the design. Draw what you know and find ways to simplify. ▀

SETH CARLTON, PE, is a project manager and team lead for JQ Engineering. Connect with him on [LinkedIn](#).

## FROM THE FOUNDER



# Observations on ownership transition

There are many variables to consider when planning for an ownership transition in an AEC firm.



**Mark  
Zweig**

**O**ver the nearly 34 years Zweig Group has been in business, we have assisted more than a thousand AEC firms with their strategic business planning and ownership transition planning and processes. We have even been through our own transition twice – once externally to a private equity firm, and the second time, after buying the company back from the private equity firm’s lender, internally to a group of principals already with the firm.

It’s not uncommon to have a great deal of discussion and debate about what kind of ownership works best for these businesses over the long haul. When I say “what kind of ownership,” I am primarily referring to the big decisions about who owns the company and how many owners they should ideally have, or whether to sell externally.

Most AEC firms start out the same way. Either one person or a small group of partners breaks away from either another company in this business or a government organization where the principal(s) worked, and the first employee(s) are also the owners of the enterprise. From there, other employees are added, and if everything goes well,

the business survives and grows. Then, at some point in the future, as the company grows and the founding partners age and start looking forward to their eventual exit, that’s when all of the debate starts about where they should go from there.

Should more internal owners be added? If so, how many and who? Should they sell to a much larger group of employee owners? Should they do an ESOP? Should the firm sell to a larger firm and become part of a larger enterprise? Should the firm sell to a private equity firm and use the capital to buy other companies and fund more expansion?

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These and many other questions need to be answered, so I thought it might be appropriate to share some of my observations about ownership transition from over the years of working in the AEC industry:

**1) Many founders do nothing at all and end up with a problem.** Some owners in this pot may have good intentions but they just never seem to get around to doing something. Then it's a big problem when they are 73 and calling us because they have no viable successor(s) and want to get out. I was actually out to dinner with a 67-year-old client one night, who told us he was going to wait four more years before he started his transition. He died of a heart attack that night. The longer one waits to start the process, the less likely they will be able to accomplish it seamlessly. That is for certain!

“One thing I am certain of: There is no one best solution for transition. I have seen just about every method available for transition work out. I have also seen every one of these ownership transition methods not work out!”

**2) Some founders have one or more of their children take over when they are ready to get out.** The main “pro” of this approach is that it's easy and you can keep it all in the family. The main “con” is the heirs of the founder(s) may not understand the business at all and may not be respected by the other people. That said, there have been successful firms that did it this way. LEO A DALY was owned by the founder and his heirs for many years. There are other examples of the children taking ownership of the business where the second generation did much more with the business than the first. WD Partners is an example. Wolfgang Doerschlag exited his firm when it had about 25 employees. His son, Christopher Doerschlag, grew the business dramatically into what it is today.

**3) Too many owners can be bad.** My experience is that when you have too many owners, the company becomes one that no one owns. What I mean by that is if all you own is a quarter of one percent of the company, you are bound to become more short-term oriented. There won't be any significant long-term gain opportunities so that is a logical orientation to assume – get what you can out of the company now. So they strip the working capital each year through bonuses. And that does not lend itself to long-term success! The other problem with too many owners is that sometimes, that can really bog down decision-making, and, in really extreme cases, any owner will have veto rights over virtually any decision – large or small. And that is a horrible position to be in – one that assures almost no one would be happy no matter what you do.

**4) Too few owners can be bad.** I have seen very large companies in this business that are still owned by one or a couple people. The problem with that is that when you don't have ownership as a carrot, you have no viable way to tie key people down to the company. You will also have to pay everyone more. No long-term equity appreciation opportunity means good people will work there, but they will expect big annual incomes. That can be hard for the business to sustain.

**5) There are pros and cons to ESOPs.** Employee stock ownership plans can be an effective way to buy out a founder or major owner with pre-tax dollars. That's a big deal. There is a minimum amount of ownership that the ESOP has to buy in order to get those tax advantages, however. And the company has to have been in existence for some time and have a big chunk of money in the 401(k) or profit sharing fund to be able to use to fund this buyback. The shares are held in a trust versus owned by individuals. And then some people will complain about annual costs for an appraisal and transparency requirements for reporting. Again – however – some of those requirements are a plus, in my opinion. Transparency is always good management, and the annual appraisal required for the ESOP can be used to value transactions outside of the ESOP. Plus, if you do an ESOP, everyone will potentially be tied to the performance of the company – which can be a plus. I just discussed a situation with one of Zweig Group's top ownership transition experts the other day where we may recommend that a founder do a partial ESOP, and then pursue an internal transition to a smaller group of key people with the rest of his ownership stake. The reason for this approach is that it knocks down the overall number that has to be sold directly to other partners and makes that more affordable.

**6) Would it be best to sell and become part of a larger firm?** Once considered not as desirable or a fallback position for owners to take if they fail at internal transition, external sale options should always be a possibility as far as I am concerned. Sometimes selling to a larger firm may be best for everyone – clients and employees – because the new company has more capabilities and may be better managed. They may have a better brand and more geographic diversity. And they may also have a better ownership transition program! The fact is today, external sale options are more abundant and may be better than ever for many firms in this business.

One thing I am certain of: There is no one best solution for transition. I have seen just about every method available for transition work out. I have also seen every one of these ownership transition methods not work out! There are many variables to consider when planning ownership transition in an AEC firm. ▀

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**ZWEIG GROUP'S OWNERSHIP TRANSITION SERVICES**

Zweig Group has helped hundreds of firms develop actionable ownership transition plans. Many firms don't put adequate resources toward this critical element of business planning. Retiring and departing owners along with future owners/leaders all benefit greatly from a well-designed map for ownership. Zweig Group can help keep your business thriving and protect both departing and next-generation owners. Zweig Group's team of advisors has seen just about every scenario you could imagine and is ready to bring this expertise to your firm. [Learn more.](#)