

The public's perception of structural engineers is often lacking in awareness and understanding of the crucial role we play in ensuring the safety and integrity of buildings and other infrastructure. The intricacies of the calculations, analyses, coordination, detailing and judgements we make on a daily basis can be complex and unfamiliar to the general public. Unfortunately, when our profession is discussed in media or in everyday conversation its typically to highlight structural failures, reinforcing a negative perception of our profession even though these cases are extreme exceptions within the civilization we've helped create. Additionally, when buildings do receive recognition, the discussion centers on the aesthetics, giving credit primarily to architects the while overlooking the expertise and massive coordination efforts between numerous engineering disciplines, developers and contractors. As structural engineers, we often feel discredited for the essential role we play in building the communities around us.

When interacting with people outside our profession, it is common for us to be mistaken for architects. Explaining the distinction between architects and structural engineers can be challenging, as the public may not fully grasp the technical expertise and problem-solving skill that we bring to our work. I find it enjoyable to educate people about my profession and the importance of structural engineering by bringing them into my world built of wood, concrete and steel. It's true that most people don't have an in-depth understanding of what we do, but these conversations allow us the opportunity to shape their perception firsthand. And although it can be frustrating to not receive recognition for the countless hours (and sometimes tears) we dedicate to our work, the value of someone's work isn't solely credited on the awards they've received or articles they've been mentioned in; it's in building the skills and connections to create the world that will far outlast our generation.

Increasing public awareness of the structural engineering profession is a hotly discussed topic in many circles. While suggestions such as outreach programs and lectures have been proposed, it's important to recognize that engineers typically do not excel in communication skills. Of course, there are exceptions, but for the most part we talk in numbers, graphs and complicated jargon because that's when the best versions of our engineering selves emerge. Technical jargon showcasing your expertise is fine in the office or in the field, but not necessarily to the average guy or gal who pays their accountant to do math for them. So let us not rely on our complicated formulas and terms like "relative rigidity" and "response modification factor" to convince the general public of our contributions to the built environment we inhabit. Instead, let's *show* them. I believe the most effective avenue for advocacy of our profession is the utilization of designs highlighting and celebrating structural components, commonly known as exposed structural architecture (ESA).

Contemporary architecture has seen a mass push for efficiency, minimalism and simplicity in the past few decades. Not only is this leading to unique and innovative building designs but organizations such as LEED and the AIA 2030 and SE2050 commitments are using the "less-is-more" methodology to advocate for limiting waste by using efficient designs. From a structural standpoint, our contributions to this movement have been limited to the structural materials we specify, which is often dictated by code minimums, and by the time we are able to spend value engineering elements, which is limited by project budget and schedules. ESA has the potential to not only revolutionize efficiency in the building industry but also to provide an opportunity to highlight structural engineers by putting them at the forefront of infrastructure's visible design.

From an architectural standpoint, exposing materials such as concrete and steel interplays the design concepts of textures and forms that are often celebrated for their industrial, modern, or minimalistic aesthetic. Exposing structural elements also communicates a sense of honesty, transparency, and authenticity of a building by showcasing its inherent strength and structural stability. By using the design philosophy of “form follows function,” exposing the structural elements of a building emphasizes the essential role of our profession in the overall design. Additionally, leaving structural elements exposed limits the need for excessive finishes and cladding. With fewer materials to be installed comes a reduction in material and labor costs, shorter project schedules, and a reduced environmental impact due to lower material production and transportation. Exposed structure can also contribute to efficient space planning by limiting the need for interior partitions and providing flexible floor plans that can accommodate various functions or future modifications without major structural alterations. The value of flexibility in building usage has yet to be fully realized and we see that today thousands of buildings are sitting empty because they were designed for a single, obsolete purpose.

In short, with ESA, the engineer no longer has to spend time value engineering the smallest lateral bracing to fit in a wall cavity; the contractors have more room to work with since they are not confined to tighter tolerances required for final finishes while holding them to a higher standard by highlighting their craftsmanship at every connection; structural inspections are made easier by having everything exposed; the owner doesn't have to come up with as much funding by limiting materials and shortening construction time; and the architect still gets the credit by saying it was all intentional. This is a design movement that has massive benefits in building considerations ranging from design, economics, scheduling, and coordination to sustainability, usage, future planning, and longevity. The bonus is now the structural design cannot be missed since it's the forefront of the building's aesthetics.

We have the ability to reshape the public perception by engaging in meaningful conversations and being a part of the aesthetic narrative. Advocating for ESA is a powerful way to prove the beauty of functionality in structural design. By actively promoting this design movement, we can break free from the notion that our work is hidden and underappreciated, inspiring greater recognition and appreciation for the vital role of structural engineers. This advocacy paves the way for a future where our contributions are celebrated and acknowledged as we continue to build safe, functional, and sustainable communities.