

Using Critical Path as a Lever to Promote Metal Building Solutions

By Tom Gilligan

What are five revolutionary things that have changed the way we do business today compared to 40 years ago?

Computers, smart phones, global positioning systems, nano-technology and globalization are all good examples. But consider what has not changed in those four decades. The construction industry has not eliminated all of the conflicts and resulting waste that occur in the building process. These issues largely continue to occur, creating the same challenges today as we experienced 40 years ago.

There have, of course, been some innovations in the process, such as building information modeling (BIM), and there have certainly been advances in material technologies; but the design development and construction contracting process is still essentially the same. The traditional design-bid-build process—which is predominantly used in conjunction with conventionally framed design—leaves little opportunity for improvement because it is so fragmented.

A design/architecture firm works in isolation with an owner, then a construction management firm or an Engineering Procurement Construction (EPC) firm is hired to bid out the general contract, along with each of the trades and supply purchases. With this approach, there is no real opportunity for up-front collaboration that can impact the critical path for the enclosure of the building shell.

A study, published in the *Journal of Construction Engineering and Management* ("Quantifying Levels of Wasted Time in Construction with Meta-Analysis," January 2005), revealed that up to 50 percent of time on a construction job site is devoted to wasteful activities. These include late deliveries, poor coordination of materials and trades, and correcting field mistakes. Due to the fragmented traditional process, in many cases the design team, key contractors and suppliers will be different for each new project, which wastes time. Every successive job is like re-creating the wheel. It fulfills Albert Einstein's adage that insanity is doing the same thing over and over again and expecting different results.

A Better Solution

Metal buildings deliver unmatched value because collaboration can occur at the outset of design and optimize the critical path to completing the enclosure of the building shell. This not only reduces time in the design phase and building completion, but it also allows for the remaining, and far more costly construction scope, to be completed more quickly. This speed-of-delivery is built into metal buildings because our industry is design-build oriented—that's where we leverage the greatest value. Traditional, fragmented contracting processes simply cannot deliver the integrated approach to solving the critical path that is derived from design-build collaboration.

Architects and owners reap many rewards from working with metal building systems. Here are just a few:

- **Shrinking the Critical Path:** Metal buildings are very adaptable up front, which shrinks the schedule by taking the building shell off the critical path for designers. Ten to 15 percent savings on a turn-key package can easily be gained, so everyone wins.

- **Speed:** Metal buildings allow other trades to get working faster, so expensive equipment rentals cost less, and return on investment is achieved much faster.


- **Consistency:** The metal building system process provides a consistent design experience for a project

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team because the building design and delivery are systematic. Highly experienced metal building designers oversee the engineering and structural fabrication. Then materials are shipped from a single-source supplier to the job site. The building framework is installed by experienced metal building assemblers, which allows other trades to begin their work faster and in a more consistent manner.

- **Refinement of Process:** Metal buildings are the evolution of commercial construction. Even though metal buildings are typically a small percentage of the total project cost, they can have a major, positive impact on the total project cost. It's a different way of thinking.

- **Repeatable Delivery:** The metal building process enhances the speed of the entire project—even for the more expensive tradesmen involved later in the build-out, because they all depend on the building shell. The metal building package brings it all together, giving the design-build and design team a shell that is repeatable and predictable, so the process can proceed quickly and take the owner to a profitable place faster.

We have a method to get everything in place much faster and without the interference inherent in traditional construction methods. There is so much more risk in conventional construction than in metal buildings. The attributes above show how metal buildings outperform other forms of construction; but are you really leveraging these benefits with your customers? If no, then why not? It's time for us to take the lead. 

Tom Gilligan is chairman of the Metal Building Manufacturers Association. More information about the association is available at www.mbma.com.

