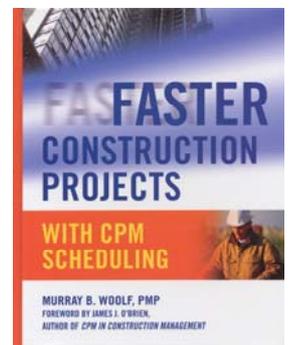


## Faster Construction Projects With CPM Scheduling

By Murray B. Woolf, McGraw-Hill, 2007, 412 pages

(Forward by James J. O'Brien, author of  
CPM in Construction Management)



While its title is derived from a book industry formula, *Faster Construction Projects with CPM Scheduling* is incisive and conceptually ambitious. The author, Murray B. Woolf, has written a dire assessment of the state of critical path method scheduling and he attempts to show the way out of trouble.

Woolf is a veteran scheduling professional who is president of a consulting company, International Center for Scheduling, Inc., in Conifer, Colo (See: <http://www.ics-global.com>). He sets out to explain why the vast majority of multifamily residential projects managed without the use of network schedules finish within 2% of their planned length and the vast majority of large commercial and industrial projects managed with automated CPM schedules take 5% to 10% longer than planned. The reasons include project schedules taken over by non-scheduling disciplines, questionable practices that have made core elements unreliable, excessive detail, and the inherently retrospective nature of traditional CPM.

Beyond this, traditional project management fails to account for daily surprises and dilemmas of the construction project, Murray writes.

"Our 'profession' is imploding and has been for some time now," he says.

At the root of the trouble is language and perception, says Murray. Inconsistencies in use and definition have led to a "terminology quagmire," he writes. For example, different work products are routinely referred to as "the project plan" or "project schedule" and they include feasibility plans, master plans, strategic plans, execution schedules and schedule revisions of different kinds. Not only are customers disappointed with scheduling, they are confused. And schedulers are confused, too. "Too many of us tend to see both planning and scheduling...as being the same animal," Murray writes. Numerous other core terms, such as critical path, lead and lag, suffer from conflicting or confusing definitions, and Murray cites 22 different examples just for these three. To limit the linguistic free-for-all Murray provides an extensive glossary.

The bigger issues in scheduling call for a more extensive conceptual overhaul developed by Murray over many years. He proposes keeping the basics of CPM scheduling intact but proposes a new system that pictures the speed and intensity of project work and includes ways to measure, depict and influence the rate at which work is performed. Called Momentum Management, the ideas are "one of the greatest breakthroughs in network scheduling since the invention of CPM itself," writes James. J. O'Brien in the book's foreword. O'Brien generally is credited as one of the earliest practitioners of CPM in the construction industry and he expresses enthusiasm for Murray's proposed new project management subsystem geared to handle the unexpected, called Dilemma Control. It is no less than a system to provide real-time warnings during the course of the project about approaching small-scale trouble, writes O'Brien.

In addition to has theoretical chapters, Murray writes detailed chapters on schedule design, development, construction, maintenance, analysis and reporting.

CPM scheduling, this book proves, is in a period of crisis and creative ferment as practitioners try to update practices. Other schedulers are also at work, evaluating methods used in Europe or devising their own systems for conceiving the activities, their duration and their relationships. More certainly will be heard on these subjects, but Murray has mounted a formidable challenge.

The final element of the book is another aspect of a profession at a crossroads. O'Brien in his foreword looks back at the previous four years and what has occurred since the May 26, 2003 issue of ENR and the cover story, "Critics Can't Find the Logic in Many of Today's CPM Schedules." In that story, O'Brien and three other experts criticized some of the uses of scheduling software that compromise the integrity of the schedule.

O'Brien says there was an unhappy side-effect to the story. "Those quotes led many readers to conclude that I rallied against change and lamented the loss of the 'good old days,'" he writes.

That impression was wrong and O'Brien tries to set the record straight.

"Change can be both bad and good," he writes. "It's never as black-and-white as the past was good, the present is bad, and the future is doomed. Rather, there were some things about the way we did things [in the early days of CPM scheduling] that I am happy to see gone forever, just as there were some things done back then that I wish I could see resurrected in my lifetime. Likewise, there are many of today's practices that I applaud, while there are some practices I would like to see eliminated." With his endorsement of Murray's innovations, O'Brien emphasizes his willingness to embrace change. From what Murray writes, much is needed.

For more information see: <http://enr.construction.com/products/bookreview/archives/070808.asp>

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