

Member Communication Experience

Seven Controls for Proactive Construction Scheduling

Written by: Michael A. Pink, CEO, SmartPM Technologies

“How do we solve the construction scheduling problem?”

It’s a complex question, one that many companies in this industry find themselves discussing without really making progress. Yet tackling this problem is crucial, not just to avoid delays but also to drive profitability and consistency across the board.

Construction projects are messy by nature. You’re dealing with everything from changing site conditions and last-minute design tweaks to resource shortages and a bunch of stakeholders all pulling in different directions. It’s tempting to think, “That’s just how it is.” But here’s the truth: A solid critical path method (CPM) schedule is the best tool you’ve got for managing all that chaos. The goal isn’t just to avoid delays – it’s to boost profits by leaning on proven scheduling techniques and best practices that actually work.

Why Scheduling Is a Huge Pain

The roots of the construction scheduling problem run deep. While CPM scheduling has been around for decades, scheduling best practices have become less applied over time. Back in the 1990s, many companies increasingly handed scheduling tasks to untrained staff or outside consultants, marking a critical shift: Schedules were now seen as tasks rather than project management tools. This shift reduced visibility and accountability, leading to inconsistent and uninformed scheduling practices.



In my previous career as a consultant, I saw this breakdown play out time and again. Projects would start with a plan and budget, only to hit roadblocks that sent them off track. Each project had its own complexities, yet they all shared a common pattern: With the schedule sidelined, teams lacked the data and insights to make informed decisions. This approach led to increased delays, budget overruns and, ultimately, strained relationships. The solution wasn’t just about creating better schedules but also building a proactive process to keep projects on track from start to finish.

Seven Controls for Proactive Construction Scheduling

Based on my experience in the field and years spent helping companies navigate troubled projects, we developed seven essential scheduling controls that directly address core issues:

1. UNDERSTAND CPM FUNDAMENTALS

Understanding CPM principles is essential for successful scheduling. This goes beyond simply knowing how to operate CPM scheduling software; it involves a deeper understanding of several key areas:

- » **The CPM algorithm** – Understanding how CPM calculates the longest path of dependent activities (the critical path) helps identify potential delays through float values.
- » **Interpreting data points** – Learning to interpret key data points such as early start/finish, late start/finish, and total float.
- » **Making informed decisions** – The value of CPM-generated data lies in its ability to inform timely decisions. Knowing how to use this data allows stakeholders to address issues proactively.
- » **Best practices** – Adopting best practices in scheduling ensures accurate calculations and reliable information.
- » **Essential metrics** – Focusing on the metrics critical to the project's success, such as schedule variance and earned value analysis (EVA), provide more insight into project health and performance.
- » **Recognizing pitfalls** – Spotting potential pitfalls, such as mislinked activities, poor task dependencies, or unrealistic timelines enables teams to adjust and avoid future issues.

It's important to note that not everyone involved with the schedule needs to be a master scheduler. However, all team members should have a basic understanding of scheduling principles – and, more importantly, know how to apply that knowledge effectively. Practical skills are often developed through hands-on experience and can be further strengthened by structured guidance.

2. ESTABLISH STANDARDS

A standardized scheduling process creates a common framework that all teams can follow, reducing conflicting data and ensuring early visibility into potential issues. With established standards in place, teams can detect and address issues such as delays, bottlenecks, or extra work more

effectively, leading to improved project performance. Plus, consistency helps refine the schedule and improves overall project efficiency. Key areas for standardization in the schedule control process include:

- » Schedule quality
- » Updating process
- » Analytics
- » Reporting
- » Information access

3. ENSURE VISIBILITY

Having standards is only effective if there is accountability at all levels of the organization. Without accountability, even the best standards won't be followed consistently. This requires visibility into the scheduling process and buy-in from all teams, not just executives.

- » **Executives** – Accountability starts at the top, so executives must actively support the scheduling process by setting expectations and regularly checking compliance.
- » **Operations** – Operations teams must ensure that what's planned is accurately reflected in onsite execution.
- » **Project controls** – Serving as the bridge between the field and leadership, project controls teams need standards to track progress, monitor key performance indicators (KPIs), and communicate risk to stakeholders.
- » **Schedulers** – Schedulers play a vital role in maintaining accuracy and transparency, identifying potential risks, and ensuring that all teams are aligned with the same information.
- » **Site teams** – Standards must be practical and aligned with site teams' capacity to execute tasks effectively. When site teams understand and trust the scheduling process, they are more likely to follow the standards consistently.

4. UPDATE SCHEDULES REGULARLY

Weekly updates ensure that your schedule remains a reliable management tool, and they help you spot risks early. Frequent schedule updates are one of the most effective controls for maintaining schedule accuracy. Ideally, updates should occur weekly or biweekly; at a minimum, they should occur monthly. Upload each update to a shared platform that enables superintendents to break down master schedule activities into

more detailed tasks for continuous alignment between the high-level plan and on-the-ground execution.

By updating the schedule more frequently, you gain:

- » More accurate start dates, finish dates, and percent completes.
- » Easier mitigation of a one- or two-day delay on a weekly basis compared to mitigating a one- or two-week delay on a monthly basis (with less accurate information).

Frequent updates also create a stronger connection between the site team and the schedule, encouraging a more thoughtful and proactive approach to problem-solving. Instead of managing with limited visibility and potentially making decisions based on outdated or incomplete information, teams can address issues as they arise, reducing frustration and bias. Implementing a culture that values regular updates is key to maintaining schedule accuracy and achieving project goals.

5. LEVERAGE ANALYTICS

While standardizing scheduling processes is essential, reliable and consistent schedule data analysis is equally important. Inconsistent data interpretation can lead to misaligned decisions and conflicting responses to project challenges. To avoid misinterpretation, implement a clear framework for analyzing schedule data. This framework should distill complex information into actionable insights that align with the specific needs of each project team.

Consistent analytics enable teams to quickly interpret key performance metrics and use these insights for timely data-driven decisions. Standardizing how data is analyzed also makes it easier to benchmark and compare performance across multiple projects. With consistent analytics in place, teams can identify trends, forecast potential issues, and develop preemptive strategies. However, analytics alone are not enough to solve the scheduling problem. A comprehensive control process is needed — one that aligns high-level strategic goals with day-to-day field operations. A critical part of this process is ensuring the data is reported consistently across the organization and used to drive decisions at every level.

6. DISTRIBUTE PROGRESS AND PERFORMANCE REPORTS

Once the schedule is updated and your preferred analytics are determined, the next step is to synthesize this information

into a schedule progress and performance report. This report should distill key data from both the schedule updates and project analytics into an easily understandable format for all internal stakeholders, as well as owner clients. The goal is to transparently communicate project performance, including any risks. By synthesizing complex data points — such as variances, critical path delays, project progress, schedule changes, and trade performance — the report allows decision-makers at all levels to quickly take informed actions.

Consistency in reporting is key. When reports are standardized and distributed regularly, stakeholders across the project have access to the same reliable information, ensuring everyone is on the same page. This makes it easier to track progress, address issues, and meet project goals. The three key components of a schedule progress and performance report are:

- » Analyzing progress, performance, and delays for better decision-making.
- » Managing schedule changes and compression to minimize disruptions.
- » Ensuring comprehensive documentation for transparency and accountability.

7. BE TRANSPARENT, OBJECTIVE, AND HONEST

A significant challenge in construction project management, particularly in scheduling, is the prevalence of “optimism bias.” This tendency leads teams to underestimate the time required to complete tasks, resulting in overly optimistic schedules that do not account for the inherent risks and complexities of construction projects.

Activity durations and schedule changes then reflect best-case scenarios rather than realistic ones. Project teams often find themselves relying on these optimistic projections, which can lead to increased stress and a pervasive fear of failure. The pressure of unrealistic schedules can even exacerbate mental health issues, contributing to workforce challenges and labor shortages. To counter this, develop baseline schedules grounded in historical data and past performance metrics. Objective analysis of historical data should guide schedule development and be used as a benchmark when implementing changes to address delays. Without a process that incorporates this data, projects face heightened risks of mismanagement and inefficiencies. 



About the Author

Michael A. Pink is CEO of [SmartPM Technologies](#), a leading construction data analysis tool designed to enhance schedule quality, assess risk, review performance, and control project outcomes.

About the Article

Republished from [Construction Business Owner](#). Construction Business Owner (CBO) is the leading business magazine for contractors and is designed to help owners of construction firms run successful businesses. Founded in 2004, CBO provides real-world business management education and knowledge that is of real value to the owners of construction companies.

Any views and opinions expressed in this article may or may not reflect the views and opinions of the Construction Management Association of America (CMAA). By publishing this piece, CMAA is not expressing endorsement of the individual, the article, or their association, organization, or company.