SmartPM

Using Schedule Analytics to Support Lean Construction

Presented by: Billy Upchurch

Billy Upchurch

Co-Founder | Industry Specialist

SmartPM Technologies Inc.

- 15 years of Construction Scheduling & Delay Experience
- BS in Building Construction from Georgia Tech

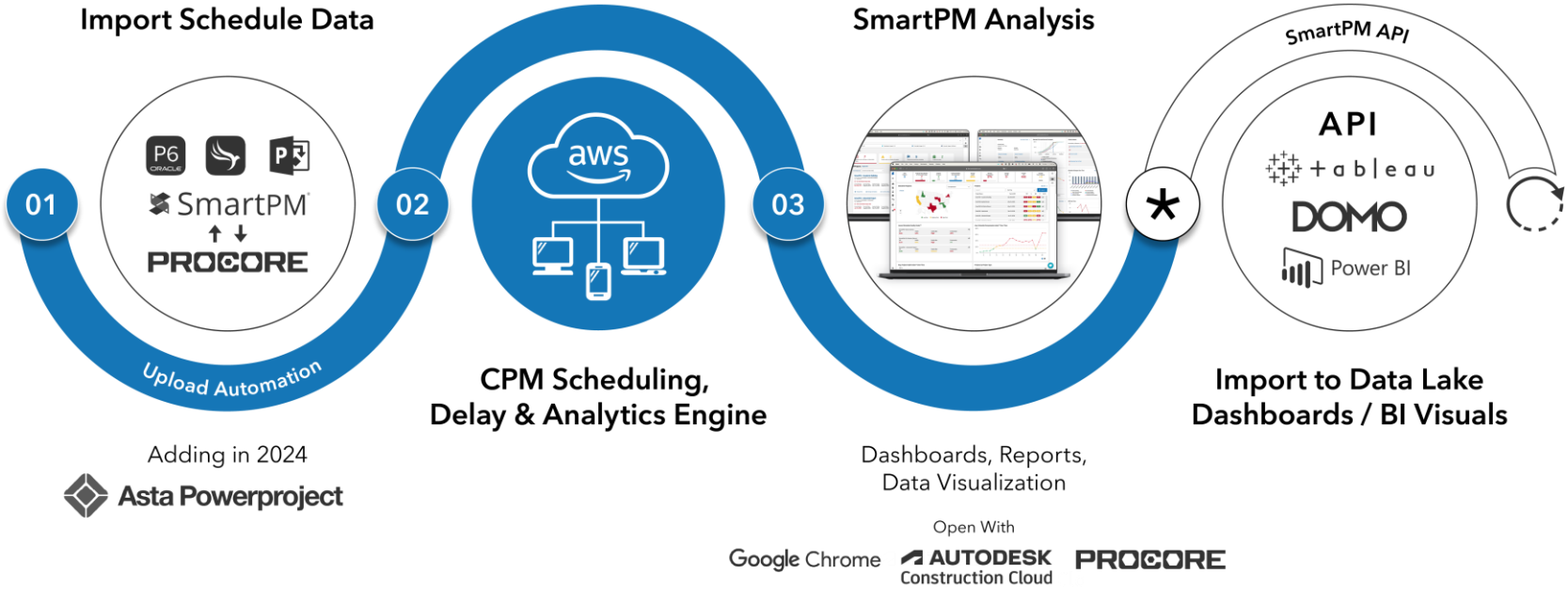
Introduction to SmartPM

Schedule Controls Software Built for Construction

- SmartPM is an advanced project controls platform that uses data-driven analytics to optimize CPM construction schedules, mitigate risks, and improve overall project performance.
- It continuously monitors schedule health, identifying inefficiencies and risks early to ensure that projects stay on track and avoid costly delays.
- With its real-time insights and collaboration tools, SmartPM enhances communication among stakeholders, promoting transparency and informed decision-making.
- By focusing on schedule quality, accurate progress data, and waste reduction, SmartPM aligns with Lean Construction principles, helping teams deliver value more efficiently and predictably.

How SmartPM Works

SmartPM streamlines project tracking by centralizing data from multiple construction platforms, processing it through a sophisticated analytics engine. The system enhances decision-making by revealing critical project delays and potential risks. Outputs are tailored for easy access and visualization, feeding directly into business intelligence applications to drive efficiency and accountability in construction management.



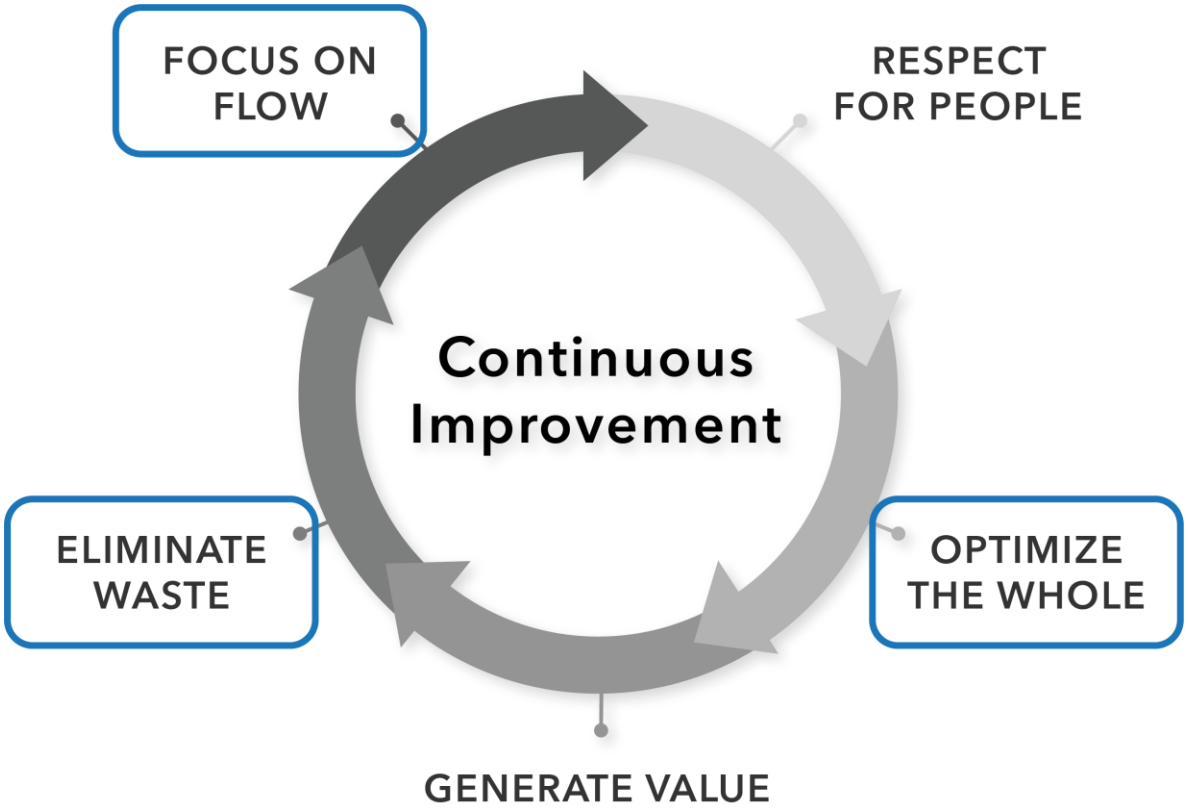
Why CPM Anyways?

CPM provides a clear visualization of the entire project timeline, including identifying the critical path, highlighting the most crucial tasks towards the completion of a project, to promote better resource allocation decision making.

A CPM schedule provides a common platform for all stakeholders (contractors, project managers, and owners) to understand project progress and upcoming milestones. It allows project teams to anticipate risks, prepare mitigation strategies, and proactively adjust the plan.

CPM schedules are typically contractually required submissions on construction projects and are the central piece of documentation in any equitable adjudication due to project delays.

Tenents of Lean



*https://leanconstruction.org/about/lean-tenets/

Schedule Quality

Schedulers can quickly identify quality issues and make improvements to achieve a company standard prior to finalizing and posting the status update.

Export **quality** metrics to Excel.

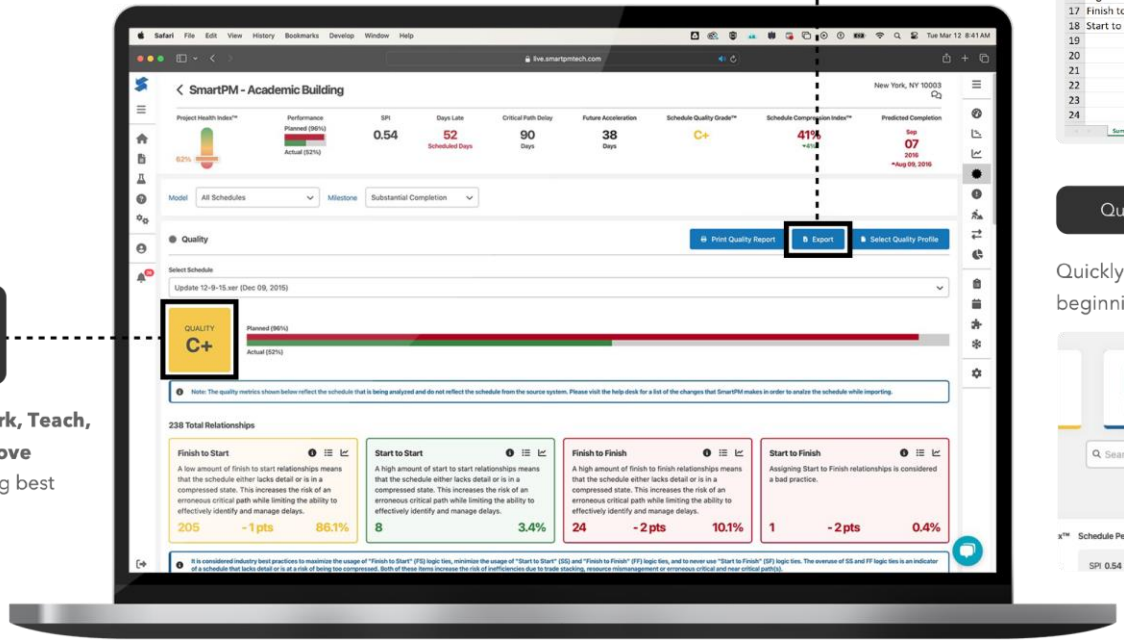
Quality Export

	A	B	C	D
2	Critical Path %	14	9.8%	
3	Constraints	4	2.8%	
4	Activities Activities	138	96.5%	
5	Negative Lag	24	8.7%	
6	Activities Milestone	5	3.5%	
7	Positive Lag	13	4.7%	
8	Finish to Start	241	87.6%	
9	High Duration Activities	0	0.0%	
10	Start to Finish	0	0.0%	
11	Total Activities	143	0	
12	Total Relationships	275	1.9:1	
13	Resource Loaded Activities	0	0.0%	
14	Missing Logic	20	14.0%	
15	Avg. Activity Total Float	2803	20	
16	High Float Activities	29	20.3%	
17	Finish to Finish	24	8.7%	
18	Start to Start	10	3.6%	
19				
20				
21				
22				
23				
24				

Summary | High Float Activities | High Duration Activities | Missing Logic | Constraints | Critical Path % | Negative Lag

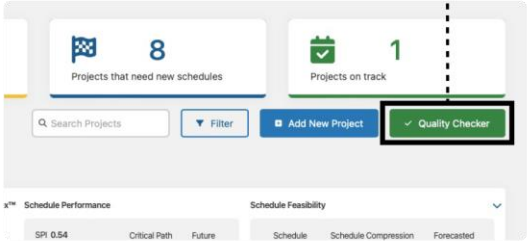
A+

Benchmark, Teach, and Improve Scheduling best practices.



Quality Checker

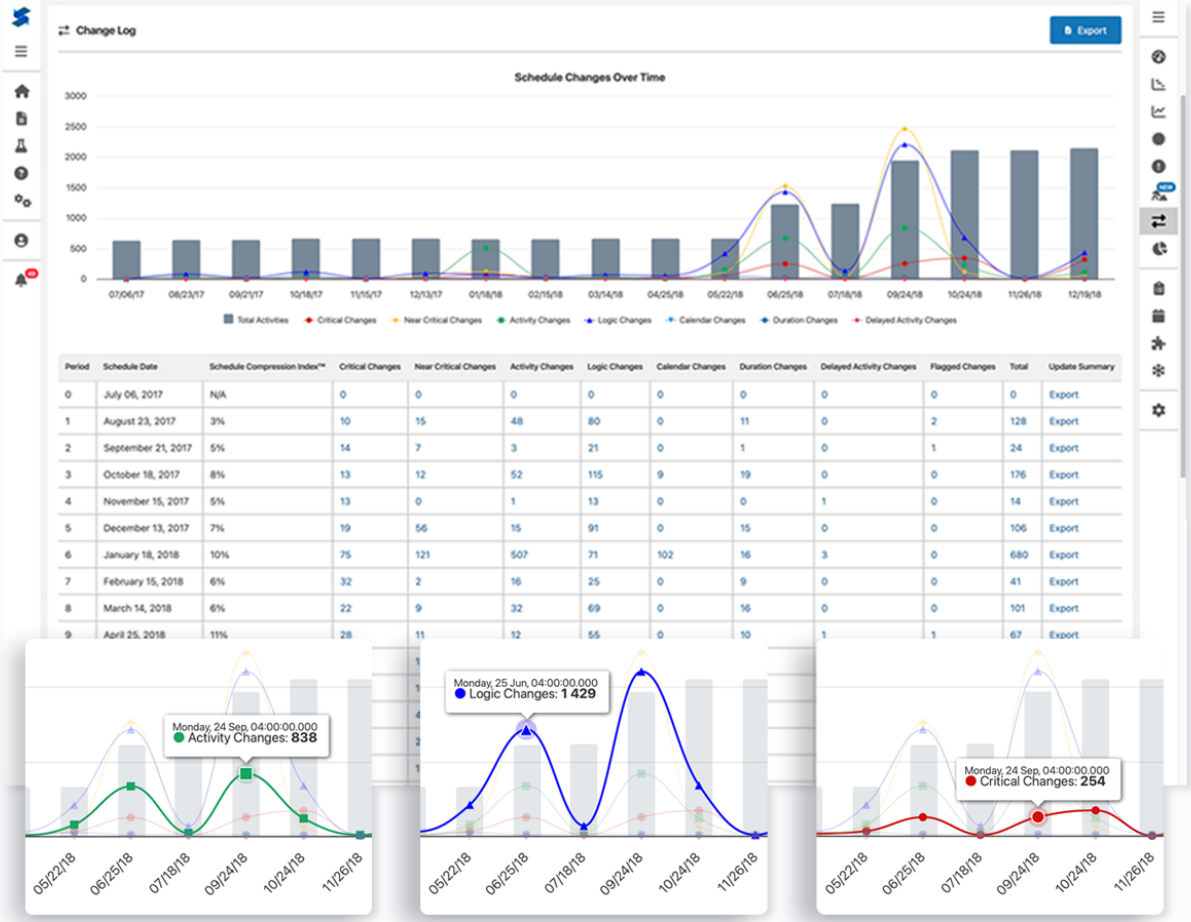
Quickly **check schedule quality** before beginning or updating a project.



Maintaining Schedule Quality Through the Lean Process

By nature, lean scheduling practices require a high volume of CPM schedule changes. Changes need to be monitored to ensure best CPM schedule quality practices including:

- Continuous Flow and Pull Planning
- Incorporating Buffers Strategically
- Resource Optimization
- Continuous Improvement (Kaizen)



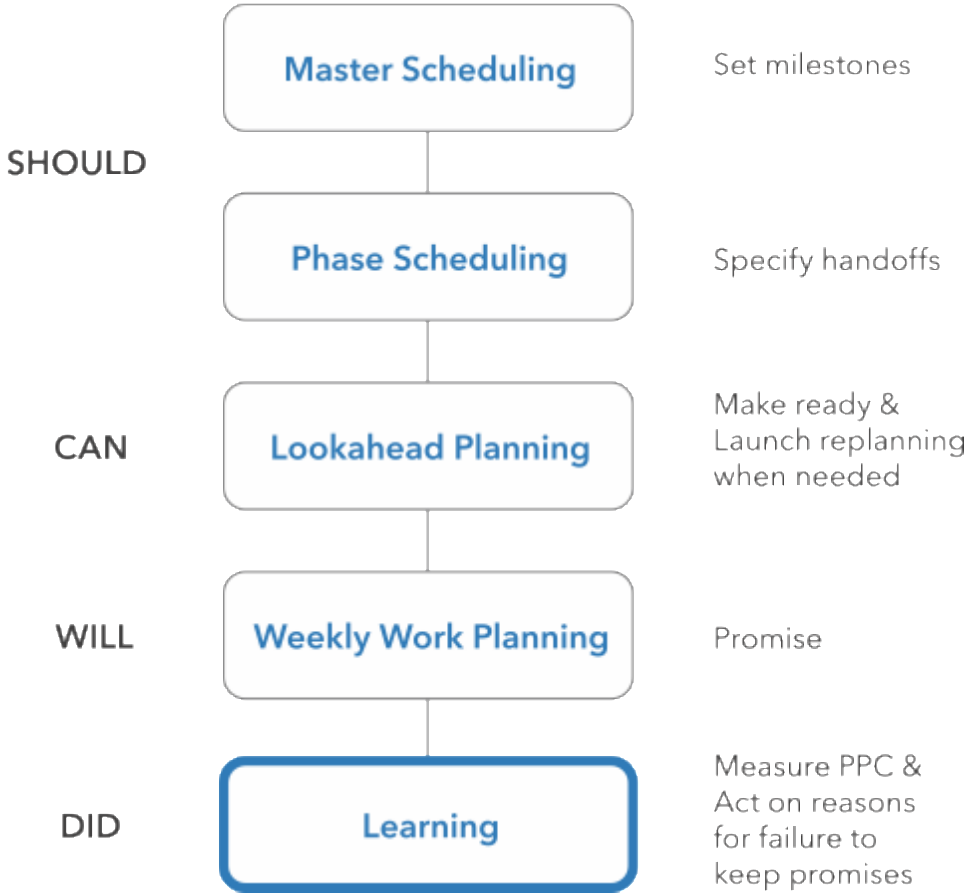
Last Planner System® and CPM

Increased Task Reliability

- Emphasis that the people closest to the work should be involved in the planning process, leading to more accurate task durations, dependencies, and sequencing in the CPM schedule

Commitment-Based Planning

- Team members make commitments to complete tasks within specific timeframes, rather than schedules being imposed top-down, ensuring that tasks included in the CPM schedule are realistic and achievable.



* https://leanconstruction.org/lean-topics/last-planner-system/

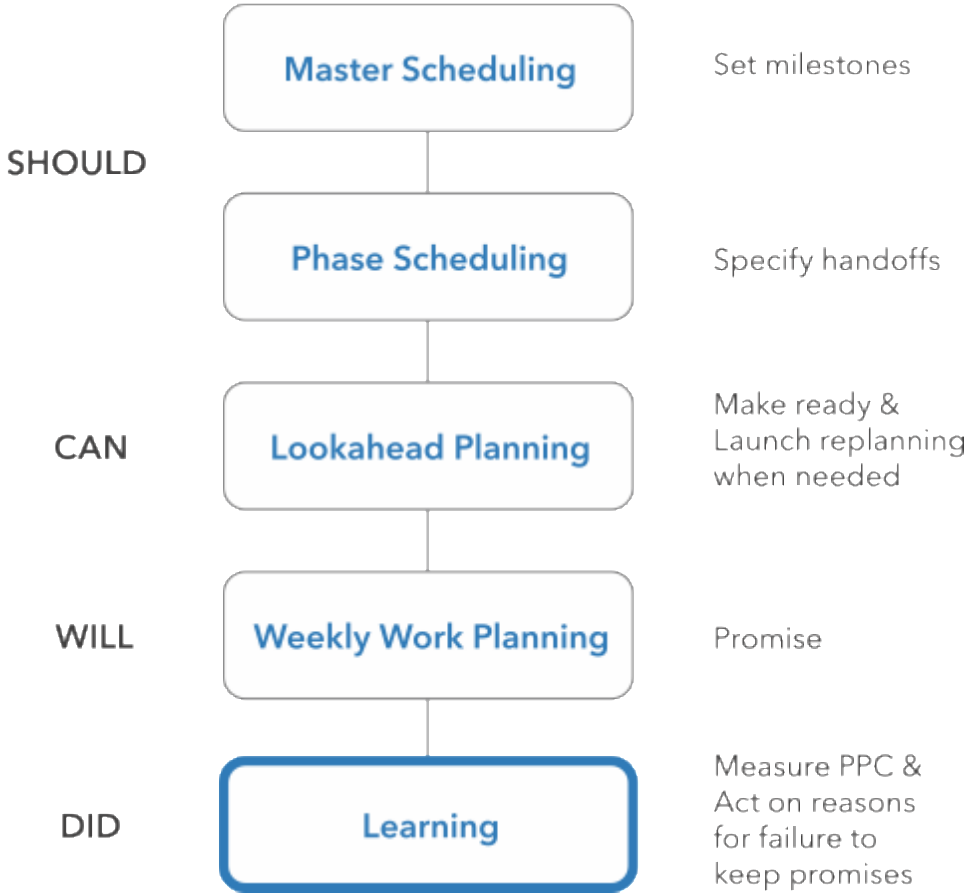
Last Planner System® and CPM

More Accurate Schedule Progress Statusing

- The inaccuracies in schedule updates or activity statuses have major implications when performing progress and impact assessments using the CPM schedule
- In a recent set of interviews with SmartPM users, nearly half of users mentioned that they struggle to predict time/cost because of this.

Learning

- Augment what you do now with predictive aspects, show predictive trends that don't require time, resources, or brainpower.



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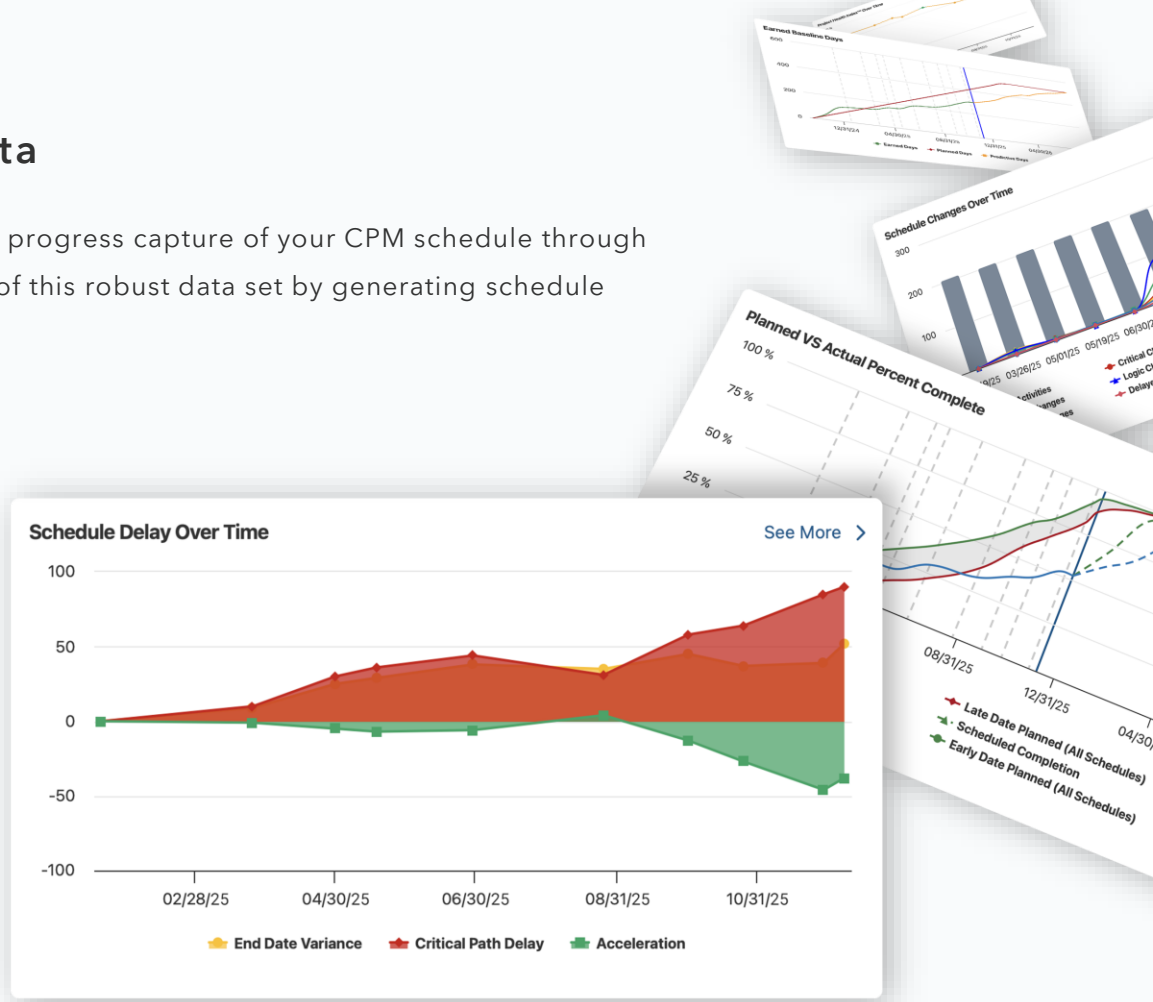
Use SmartPM to Unlock the Data

After improving the baseline plan and subsequent progress capture of your CPM schedule through Last Planner System®, you should take advantage of this robust data set by generating schedule analytics through the SmartPM platform.

By having a reliable schedule data set, you will experience:

- Better Schedule Quality Analysis
- Improved Accuracy in Predictive Analytics
- More Meaningful Variance and Delay Analysis
- Improved Schedule Updates and Forecasting



Ready to Simplify Project Controls?

Discover how SmartPM can transform your project management with our cutting-edge schedule controls software.

SmartPM®

Lean Construction Institute
Transforming Design and Construction

For LCI attendees only!

Scan the code to request a 1:1 demo and receive a 2 Month Trial!