

Project Scheduling: A Way to Evaluate Workload

Excerpted from *The Architect's Handbook of Professional Practice*, by Frank Stasiowski, FAIA

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SUMMARY

Effective project scheduling can identify on-hand workload and changes in workflow. Below, Frank Stasiowski, FAIA, identifies four systems to schedule projects: milestone charts, bar charts, interactive bar charts, and CPM charts.

PROJECT SCHEDULING

Over the years, numerous systems have been designed to schedule projects. Each system has advantages and disadvantages, and each project should be scheduled using a method that best suits its scope and complexity. Also, a system must relate to the level of schedule control needed for the project. Using an overly complex scheduling method requires unnecessary effort and may, in fact, distract the project manager from the tasks of planning, and once the project begins, keeping things on track.

MILESTONE CHARTS

Perhaps the simplest scheduling method is the milestone chart. In its most basic form, this method consists of identifying a target completion date for each activity in the task outline. The chart may also include the name of the person responsible for performing each task and, later, the actual completion date for each task. The two major advantages of milestone charts are their ease of preparation and emphasis on target completion dates.

The best applications for milestone charts are

- Short design projects with few participants and little interrelationship between activities
- Preparation of presentations or proposals
- Summarizing complex schedules containing many tasks

BAR CHARTS

Some of the drawbacks of milestone charts can be overcome by using a slightly more complex method—the bar chart, also known as the Gantt

chart. Probably the most widely used planning tool among architects, the bar chart consists of a list of tasks along the left side of a page.

Horizontal bars along the right side indicate the scheduled start and finish dates for each task. Today there are dozens of computer programs that make this scheduling method both accessible and easy to use.

INTERACTIVE BAR CHARTS

Some firms create bar chart schedules in an interactive way. They will rough out a bar chart with a spreadsheet or project management software before pinning it on the wall for team members' critique. During the scheduling meeting, the project manager can obtain commitments from all parties to accomplish their tasks on the group-established schedule. Conflicts can be discussed and situations resolved while everyone is still in the room.

CRITICAL PATH METHOD CHARTS

A highly mathematical system in which task interrelationships are defined and task schedules analyzed, critical path method (CPM) scheduling is designed for use in very complex projects with many tasks and complicated logic. CPM is not often used to schedule design projects but is frequently used by contractors to schedule construction sequences and projects.

CPM diagrams graphically show the interrelationships among project tasks: which must be started first, which cannot be started until others are completed, and which can be accomplished in parallel. Through calculation, it is possible to develop an early and late start date (and finish date) for each activity. It is also possible to plot one or more critical paths through the project—sequences of tasks that, if delayed, would delay final completion of the project.

SELECTING A SCHEDULING METHOD

The list below, summarizing the pros and cons of each system, can help a firm decide which method is most appropriate for its situation.

Milestone Chart

- Good ease of communication
- Minimal cost
- Poor team member commitment and client appeal
- Poor degree of control

Bar Chart

- Good ease of communication
- Minimal Cost
- Good client appeal
- Good degree of control

Interactive Bar Chart

- Same as bar charts
- Slightly increased cost
- Stronger team member commitment

CPM Schedule

- Poor ease of communication
- High costs
- Excellent degree of control and client appeal

PROJECT SCHEDULING SOFTWARE

Microsoft Project is a high-end planning, scheduling, and tracking program for medium and large projects.

Primavera SureTrak Project Manager is intended for use for planning and controlling small to medium-size projects.

Primavera Project Planner 3.0 is an industrial-strength program that provides planning, scheduling, and tracking capabilities for sophisticated and multifaceted projects.

FastTrack 6.0 is a scheduling and tracking program for projects requiring a low to moderate degree of control. It offers a rich array of graphical features with Gantt bar output.

RESOURCES

More Best Practices

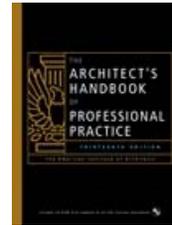
The following AIA Best Practices provide additional information related to this topic:

- 13.03.01 Time Management Tips
- 13.04.02 Construction Cost Estimating
- 113.04.03 Elements of Realistic Project Budgets

For More Information on This Topic

See also “Project Controls” by Lowell Getz, CPA, and Frank A. Stasiowski, FAIA, *The Architect’s Handbook of Professional Practice*, 13th edition, Chapter 14, page 444.

See also the 14th edition of the *Handbook*, which can be ordered from the AIA Bookstore by calling 800-242-3837 (option 4) or by email at bookstore@aia.org.



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Keywords

- Practice
- Project administration
- Project schedules
- Architectural service schedules
- Critical path method charts