

Planning How Your Firm Tackles Its Next Job Is the Key to Staying Profitable and Competitive

Practice Matters

By Satish Rao

During the recent construction boom, almost every project seemed urgent. Fast-tracking and design-build ruled, and it looked like there was no end of the work in sight. Our clients were flush with cash and willing to pay a premium to get work done quickly.

When things were good, many architects didn't feel they had time for work plans for new projects. They stopped making the critical up-front assessments of the steps needed to figure how much it would cost the firm to do a project, to make schedules, and to properly allocate resources. Times have changed. Firms are competing for fewer jobs, and profit margins have slimmed considerably. Now we need to get back into the habit of doing comprehensive strategic, financial, and logistical planning at the beginning of each job. Why? Because such planning ultimately determines how well a firm competes, and how profitable it is.

But preproject planning does much more than make firms more competitive. It helps to establish benchmarks and time lines, reinforces fiscal discipline, and in today's litigious environment, aids firms in anticipating risks and problems before they occur. Clients, particularly those who are inexperienced, favor highly organized firms and usually welcome the rigor the work plan introduces.

Some firms use the planning

Satish Rao has been a project manager for more than 30 years and is currently with Torti Gallas and Partners.

process to help them to decide whether it is feasible to pursue a particular job. If the firm elects to go after the work and is awarded a contract, the plan can be useful in helping the architect estimate the bottom price for doing a job before contract negotiations begin. The price can be updated if project scope and other specifics change.

What a work plan covers

At a minimum, the work plan comprises a task list, schedule, staffing plan, and a budget, including an estimate of cost and profit.

Once one begins comparing different components of the work plan, it is easy to see their interdependence. No one part of the plan can be fully developed without being cross-checked against the others. For example, the scope of work guides the development of the task list to a great extent. The task list is used to determine the schedule and staffing plan. The budget for design and for producing contract documents and estimating costs and profit will be based on these tasks.

Creating a work plan may sound like a daunting task; however, your office's past project records should be a rich source of task, scheduling, and internal budget information. If you find that your records are incomplete or difficult to adapt for use in making projections, now may be the time to refine your firm's database.

Task list and scheduling

The task list is a detailed description of everything that must be done to

accomplish a job, starting with the project's goals and the overall scope of work. When doing this planning, one should be on the alert for tasks that were not fully described in the contract or RFP. A "cartoon set"—thumbnail sketches of the drawing set—can also be helpful in the planning process.

The project schedule can be derived from the task list. Pay special attention to critical review dates set by the client and others that may cause delays or force staff to work overtime. Identify due dates for information and note when your client must make certain critical decisions. Decide when your consultants should get their base drawings and other information. Show dates for in-house reviews, and schedule time for revisions to drawings. It is advisable to include at least a 25 percent contingency for time delays; this can be reduced during later stages of work.

For complex projects, either critical path method (CPM) or program evaluation and review technique (PERT) charts may be used to show task priorities and interdependencies, and to establish task order, but these are difficult to set up. Simple bar schedules may be just as effective if they are enhanced to show links between tasks.

Prepare a staff plan

Once you've created a job schedule, it can be used to develop a staff plan. This is the time to assemble the project team. A check of the schedule will help determine the project's staffing

requirements for each stage of the work. Resist the temptation to plan staffing one phase at a time. A look ahead through the life of the entire project may reveal that the firm will face a staff shortage, weeks or months before it happens—soon enough to avoid it.

Be careful to avoid wishful thinking when you're trying to estimate how many staff members will be needed to do the work. Consult your team while determining realistic hours for each task. Common mistakes include underestimating the time that will be absorbed by client reviews, and time spent getting the building permitted and reviewing submittals; forgetting to include the time that principals will have to spend on contractual issues and for quality control. If these are not included in the budget, they will have to be absorbed as overhead, and these costs can be significant.

Time is money

Broadly speaking, there are two ways of estimating hours and fees. The "top down" method employs rules of thumb such as the percentage of construction cost, or numbers of hours per drawing. The method is quick, but it provides only a preliminary estimate of costs because it fails to allow for each project's unique circumstances.

The "bottom up" method provides a more reliable estimate, because it uses the project's task list, staffing plan, and schedule as a basis for the time required to do the work. This is where maintaining a

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detailed database of your firm's past projects can really pay off. It should be sorted by project type and include size and scope, construction cost, fees, the number of drawings that were required, and hours spent. Consult this database while estimating hours for each new project. You can be almost

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certain that the number of hours calculated will exceed even the most optimistic estimates you may otherwise have made.

It is also essential that the person estimating job costs know and understand what the firm's "multiplier" is and how to use it. In general, a multiplier is a factor used in cost estimating to account for overhead expenses such as build-

ing rent or mortgages, the cost of equipment, consumables, and benefits and taxes. The *Architect's Handbook of Professional Practice*, by Joseph A. Demkin, AIA (John Wiley & Sons, 2001), has more information on multipliers. For our purposes, it is enough to say that underestimating these costs can

put a firm out of business.

A good cost plan is one that anticipates and compensates for the unexpected. Don't assume a bottom-up estimate is not required if the fee is already negotiated or if the client has imposed a fee based on a percentage of construction cost. A more comprehensive estimate should always be done in order to double-check whether

fees are sufficient, and to develop a strategy for addressing shortfalls if necessary.

The importance of monitoring

Much of the effort of creating a preliminary schedule and budget will be wasted if both are not tracked over the course of the job, not to mention that project records needed for creating work plans in the future will be incomplete. For those reports to be useful, they need to be detailed. Time-keeping codes must be set up to match your intended billing breakdown, and time sheets must be completed accurately.

While simple jobs can be monitored monthly, that's too long for big projects and for firms with large revenues. A practice with a staff of 50, for example, can earn \$5 million annually, or more than \$200,000 every two weeks. And since firms operate on low margins, a few bad weeks can mean the difference between profit and loss for the whole year. The *Architect's Handbook of*

Professional Practice offers good examples of project performance reports. These should be created biweekly so problems can be remedied as they emerge. If adjustments to the contract or billing need to be made, they can be picked up on the next monthly invoice.

A participatory process

Because an experienced staff member can pick up nuances in planning that might not be obvious to a person looking at a spreadsheet full of the last decade's job records, project planning should be a participatory process. Large firms running multiple projects should hold "master planning" meetings so people and resources can be allocated when and where they are most needed.

With many practices downsizing, principals are finding that their staffs need to be more productive than ever. A well-established project-planning culture helps firms adapt and stay profitable in these tough, competitive times. ■