

Cost Estimating

Rosemary McMonigal, AIA

Minneapolis

This issue is the first in a series focused on special topics. The topics were identified by a 1994 survey of our members indicating specific areas where people wanted more information. The top three areas of interest were cost estimating, marketing, and services pricing.

In this issue, you will find cost estimating articles written from a variety of perspectives by architects, contractors, and cost estimating consultants. Bill Wolter's article on construction cost management discusses cost management versus cost estimating. Budgeting and cost control are a reality of every project. Read, learn and feel free to call the authors if you have any questions.

Cost Estimating Tips

Ty Morrison, AIA

Boise, Idaho

Our 14-person firm deals with costs in as straightforward a fashion as possible. Construction work in Idaho is typically very cost conservative, therefore most of our clients are very sensitive to cost issues from the start. In our first contact with the client to establish a desired scope of work, a preliminary budget is always established. Often the client has a goal in mind. When this is not the case, we quickly identify the general characteristics of the project with the client, then refer to the Means Project Cost Estimating Guide to determine an average benchmark.

When a more defined scope or preliminary design is developing, we usually refer to Means Square Foot Cost Estimating Guide and compare figures with estimated square footage. At the end of design development, and then again at the three-quarter point in construction documents, we do a quantity take-off and refer to Means Cost Estimating Guide for costs of the various components. We generally will revise the three-quarters estimate at the end of the project to check against the final construction document set.

We find the Means Western Edition Cost Estimating documents to be an invaluable and generally accurate database for cost estimating. We do maintain a database from Contractor's schedule of values cross referenced to specification divisions for a check against Means data. Local suppliers and vendors are another

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valuable resource for hard to find or unique aspects of the project. We maintain a very open and important dialog with the local suppliers in order to obtain useful data. We find the knowledge of potential bid projects is as valuable to suppliers as their cost data are to us.

When a project appears to be in jeopardy, we identify our concerns with the client as early as possible. We discuss design options such as limiting the scope or modification of selected finishes. As a last resort, we encourage a base bid that appears to meet the budget (adjusted if at all possible), in combination with additive alternate packages.

We encourage clients with the option to consider invitation bidding in about half our projects. Depending upon client relationships, we also do a fair percentage of negotiated construction projects. The benefit to the client appears to be about the same either way. We find open or public bidding to be hit or miss. If the construction climate is slowing, bids are favorable. If construction is on the upswing, bidding tends to be on the high side, or the number of generals and subcontractors is reduced and competition is less of a factor.

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Costs and Motives in the Design Process

*Paul Brugger
Minneapolis*

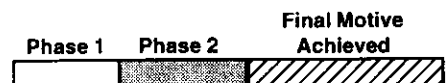
One of the most stressful elements of the design and building process is the commitment to costs regardless of whether the design process is done by an architect and built by a builder or the entire process is completed by a design/build firm. This commitment to cost has different implications pertaining to the roles of the client, designer, and builder. Recognizing the motives of each is where the estimating process begins. This is a pattern I have experienced over the years.

In the first phase of a project, clients have a vision of the type of environment in which they see themselves (lifestyle) as their primary focus while associated costs become a secondary focus. At this phase, the designer's primary focus is to exercise the vision of the client and reflect costs relating to this collaboration. The builder's primary focus at this phase is cost, and the secondary focus is on lifestyle. Notice that the primary focus of client and builder are directly opposite at this point of the project. Surprised? I don't think so. It is only natural that people tend to focus first on the less stressful task.

At the second phase of a project, both the client and the builder begin to shift their primary focus.

That of the client to costs and that of the builder to lifestyle. In this second phase, the relationship between the client and designer can become weakened as the client may shift the responsibility of lifestyle to the designer and the designer in turn shifts the responsibility of costs to the builder.

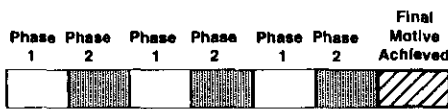
During these two phases there will be costing cycles associated with the project. Two different scenarios show these cycles happening over different time lines. The first scenario is to initiate the design with a few rough numbers, with final pricing gathered close to the end of the design process. Options and allowances are then used to modify the proposed final cost. Phase 2 is held off in order to accomplish Phase 1 and thus the length of costing cycles is extended.



The difficulty with this scenario is that Phase 1 takes a couple of weeks or months--time in which clients (in their mind) have lived in the first design, nourished and rested themselves, raised children, and entertained. If at Phase 2 they cannot accept the costs and are asked to give up something, they can become angry and disillusioned, trust is broken, and they do not accept new information easily. It is like asking someone to tear down, in the fall, the screen porch they built and used over the summer and to scramble to build something different for next summer. In this case, the designer is in a weak position in requesting more finan-

cial commitment to modify the design to match the budget or find ways to get the project built for less, risking quality and performance.

Another scenario for costing cycles is to do the first two phases with minimal time between each cost cycle.



In this scenario lifestyle and cost get processed at a faster rate allowing clients (in their minds) not to move in until being closer to the final motive. This scenario requires clients to change perception of lifestyle to match cost very quickly with design resources allowed to be allocated closer to the final motive.

LIFESTYLE	NEED	COST
Option A - Dining in a new addition	Need to have a dining space with views, warm sun, and plants.	\$35,000
Option B - Dining in a park	Need to have a dining space with views, warm sun, and plants.	\$350

In the first option, dining in a new addition and in the second option, dining at the park, start with a system to provide accurate costs for each new lifestyle option. Design can be focused on either the addition, or on a table cloth and plates. Each costing cycle has a greater degree of design and cost accuracy. The client has been involved in this process, maintains control, and builds trust.

The challenge for the designer is to be able to relate the appropriate costing method at each cycle, which includes lump costs, square foot costs, component costs, feature costs, option costs, and itemized costs. The best way to start your own estimating system is to take a simple project that was just completed, take a cost at the start, and determine the final cost at completion. Presto this is your first contingency percentage number! Next, ask the person who did the construction to review the project and roughly divide the costs into four parts: site work to demolition, mechanical, framing shell to sheetrock, and interior to exterior finishes. If you do this consistently, you will start seeing patterns of cost for your type of projects. You can start being more independent in the doing the design cost cycles. Keep asking for installed costs from suppliers and logging them in a journal. This will take time and effort but it will pay off in a smoother process for all involved. This estimating is a service the client will pay for to reduce stress and increase clearer final expectations.

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Designing to Construction Cost Budgets

*Mark Fox, AIA
Philadelphia*

It's a constant fear. From schematic design to construction documents the nagging issue of a construction budget haunts your drawings.

The budget, that's what gives you sleepless nights. How do you stay on budget while satisfying your client's desires and your own aesthetic satisfaction? It's an issue we are all familiar with and one that, through trial and error, our firm has developed some practices and procedures to address the problem and help us sleep a little better.

Establish a Budget

The first step in staying on budget is actually to establish one. Too often the client (and the architect) are willing to start design development with a loosely defined budget or without one at all. Don't fall into this trap. Face the budget issue up front and design to the budget. Don't allow the construction bidding process to determine the budget.

Also, it is important to realize that what clients say they can afford to spend should not be the budget you adopt but merely be a guideline for you during schematic design and budget development. Using their project goals and general financial guideline, we use the schematic design phase to help zero in on the budget. We prepare multiple schematic designs along with schematic design construction cost estimates for each scheme. Working this way, we can discuss the different design approaches and different schematic budgets up front. The client can then make an informed decision about which alternative to pursue. Consequently, the schematic design phase results in both a preferred design solution and a budget for the project. One note of caution: Make sure your schematic estimates include a contingency for unforeseen variables. It's too early in the process to promise hard construction cost numbers, but a good schematic estimate with a contingency will be the basis for a well thought out budget.

Communicate

Defining the budget is your step to establishing clear communications with your client. Maintaining clear communications will be critical in your effort to stay on budget. Consciously, unconsciously, and sometimes just through plain ignorance we fail to communicate the construction cost ramifications of our design ideas or the client's desires. This communication can be difficult and even project threatening, but failure to keep your client

informed of construction costs can have disastrous results. For example, recently our firm prepared a construction cost estimate for another, extremely capable architect. The project consisted of a second floor master bedroom suite and the renovation of the kitchen and dining room. We reviewed the drawings (construction documents at this point) and developed a construction cost of \$200,000. Unfortunately, the architect's client had a \$65,000 budget. Due to the client's escalating desires, what started out as a relatively modest kitchen and dining room renovation expanded to an upscale renovation with a second floor master suite addition. Somewhere through the excitement of the design process, communications regarding construction costs completely broke down. The result was a project that wasn't built, an architect that wasn't fully paid and a client who wasn't thrilled.

As design professionals, it is our responsibility to design to a budget and continually communicate the impact of design changes on construction costs. Construction cost reality is difficult to face but much easier to accept and react to during the schematic phase than after the construction document or bidding phase. Ongoing cost evaluation and communication are key to project success.

Cost Evaluation and Reevaluation

To communicate construction costs to your clients, you obviously have to develop construction cost estimates. We try to develop these estimates in the schematic phase

for budget development and at the point when construction documents are approximately 50 percent complete (enough time left for changes to the project to keep the budget in line).

For many architects, this process in itself is the root of the budget problem. As design professionals, we all know how to develop a project program to meet a client's functional goals. For most of us, estimating construction costs is not our forté. Consequently, to meet our obligation to design to a budget, we either have to make a conscious effort to become proficient in construction cost estimating or we have to seek help for this part of our service.

Becoming proficient at construction cost estimating is a noble goal, but for most small-project practitioners time constraints make it virtually impossible to become a savvy construction cost estimator. For most architects the only realistic solution is to seek help. Establish good working relationships with the contractors who prepare detailed competitive bids for your projects. Contractors are very familiar with estimating construction costs. Why not get them to help you during the design phase? For relatively small projects, some contractors may be willing to prepare estimates for you at no charge as long as you give them an opportunity to bid your projects. However, don't hesitate to pay for the service (and include this cost in your design proposal). In the long run, obtaining thorough construction cost estimates during the design process will be worth

every penny to both you and your client.

Be Cost Conscious

Even if you are getting help with your construction cost estimating, you still need to educate yourself about construction costs and, most importantly, relative construction costs. In this regard, we like to think our firm is cost conscious, meaning that while we may not know the actual cost of a detail or finish we do know the relative cost of one choice over another. One area in particular that we focus on is finishes. Finishes, such as flooring, fixtures, trim, and cabinetry can have drastic cost ranges and are usually items the client is especially interested in. Focus in on knowing these costs so you can guide your clients to finishes that will work within their budgets.

Be Flexible

Sticking to a budget can be a frustrating experience for both the architect and the client. Rather than constantly focusing on the negative of "that's too expensive for the project," concentrate on trying to offer your client options. Keep them excited about the project by letting them know what they can upgrade to if they are willing to delete or downsize some other detail. Get your clients focused in on what's most important to them and then do your best to cut costs in other areas.

The construction cost estimating and budgeting process can be a complicated and sensitive issue for all of us. Our firm has found that these ideas have helped us provide

better service and have improved our ability to satisfy clients. None of these ideas is rocket science, but we hope some of them can help you with your projects ... and help you get a good night's sleep.

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Cost Estimating Is Not a Dirty Word

*John Ireland, ALA
Woodbridge, Conn.*

When I began as a sole practitioner nine years ago, I was not interested in or conscious of cost. But time after time, when the contractors came on board, they cut all the really great ideas and designs. The owners were skeptical and the sense of financial trust was lost. So out of the need to recapture design, owners' trust, and the control and destiny of the project, I took a shot at cost estimating. The initial attempt was not as boring as I had anticipated, and the result was okay. As time goes on, I get better with practice, and I now talk more about cost with contractors and owners. When I question estimators (and the successful general contractors and developers really value their estimators) they smile when asked how they know what number to use or vary. Their

intuition is behind that smile.

Talking cost is good, clean professional fun. Today, I have a good sense of cost, and that is a skill and intuition that I have come to value.

I first ask the owner, "What is the budget?" I offer some reaction on whether it is high, low, or close. Step two is to do an estimate by division, usually a stick take-off. Name and list everything, or almost everything, in the design by CSI division format. Then assign a *realistic* price. You will always be within 5 percent. I aim for 5 percent under. I find no greater joy than adding in the alternates to a project.

I use estimating software for most take-offs. It is inexpensive and has extensive lists. It is not perfect and does not work just right, but it gets the job done. Once you start, it is easy. The final step is printing it out and adjusting anything that stands out that is not *realistic* or not quite right. Your honest sense of "Can the job really be done for this price?" and not "Do I want to *believe* it can be done for this?" is a key.

The *realistic* price is not mysterious. If the area is small, then the cost per unit or per area is not *realistic*. I ask myself, if a laborer had to come on the site to do this one patched area or three lights or whatever the item is, then what is a *realistic* price to perform this work? I also call subcontractors or contractors to learn their *realistic* prices. I have on occasion asked a contractor to look at my estimates. This is very reassuring and they are happy to advise me. I do not believe in using estimators (sorry

estimators) because I am convinced that estimating is best in the architect's hands.

If the project then exceeds the budget, I let the owner know and ask what should come out. The statement "the wish list has to balance with the budget" is not an original one. Every owner I have ever worked with welcomes these types of decisions. It is their money.

The hardest thing is not to forget the estimate during design. Questions like "What is estimated and what options do we have within the budget?" are the keys to successful follow-through. Making the choices for material, details, and finishes are easier with the estimate as a guide. You can manipulate the estimate to bring one section up and another down, and the bottom line remains on budget. Designing within a cost-estimate grid, and not freeform with no budget, is the value added by the profession.

The architectural profession has suffered a lot under the charge that our fees are too high and our designs too expensive. I for one believe that we can do more public service by countering this with small projects (or any size for that matter) that are within the budget. Cost estimating is a real value to the profession.

John Ireland, AIA, recently merged his sole-practitioner firm with Harriman Associates, a Maine-based, full-service architecture and engineering firm, and now heads its Southern New England office in Woodbridge, Conn., (203) 387-3561.

Construction Cost Management

*William A. Wolters
Minneapolis*

Two statements in life are generally held to be true. First: "None of us is as smart as all of us" second: "Redrawing a project is not only frustrating, it's expensive!" Cost management may be the answer to these adages—underlining the first and eliminating the need for the second.

An accepted concept in project development is that 80 percent of the final cost of a project is determined in the first 20 percent of the design. Decisions on five basic systems—civil, structural, architectural enclosure, mechanical, and electrical—will ultimately control this 80 percent cost factor. Why not make cost management an integral part of your design process? Using an independent cost manager will save you both time and money in determining a realistic probable cost of construction, identifying alternative materials or systems for potential use, and acting as a conduit be

tween you and the construction market regarding bidding conditions and phasing.

Cost management is an emerging specialty designed to benefit both owners and designers of building projects. The concept of cost management has been widely embraced on large-scale projects and is being recognized as equally valid for use on moderate and smaller-scale projects. Cost management shouldn't be confused with cost estimating. Cost management involves taking a proactive stance to identify project costs and forecast probable outcome. Cost estimating usually is reactive and reports costs from a historical perspective, often after the damage is done.

Cost management combines the advantages of having a construction entity involved early in the design of a project with the flexibility of not being committed to a contractor or construction manager for the life of the project. You retain the ability to bid or negotiate your project at any point in the design process.

The implementation of cost management is virtually transparent to the untrained eye from that of a conventional project development sequence. The primary difference is that the cost manager has no hidden agenda regarding the construction of the project. Once bids are received, or a contract is negotiated, the cost manager's role is generally eliminated. There is no need for ongoing reviews and services once basic systems are chosen and a competent contractor is selected.

This means cost decisions offered on your project are driven by market conditions, material availability, initial material cost, and lifetime maintenance costs. This is very different from "Harry is coming free from his present project, and I have a crane in the yard ..." Value engineering, an often misused term, is conducted at the start of a project when it is most effective, rather than as an effort to cut cost to meet the budget once a project comes in higher than expected.

For cost management to succeed, open communication must be the rule rather than the exception throughout the design team. The cost manager must be considered your partner in all phases of project development. This is important if this team member is to understand totally the project concept and respond with sensitivity to your design philosophy.

Regardless of whether your next project is another national mall or a local retail remodeling, you will improve your success ratio with the implementation of a cost management program as part of your design services.

Bill Wolters is president of Constructive Ideas, Inc., and has 25 years of experience in the construction industry practicing nationwide, (612) 225-4740.

Cost Estimating for Small Projects

*Brian Wass, AIA
Minneapolis*

"Eenie weeny, chilly beanie, the estimating spirits are about to speak.

Are they friendly, accurate spirits?

Gee, I really, really hope so."

If these are the thoughts flashing through your mind as clients ask you what their small projects are going to cost, join the rest of us whose knees quake when asked the big "\$" question. Small-project cost estimating is a minefield of changing conditions. Because of the overall small size of these projects, otherwise simple changes can drastically increase or decrease overall project costs, making you know who look like an idiot. Just a few of those inflator/deflators are: unknown site conditions, government regulations, changing construction circumstances, and contractor's overhead and profit.

So what to do?

Our office begins by making the owner part of the team developing the estimate. Often owner involvement will unearth some of those otherwise-unknown conditions, and their participation helps the credibility issue if a major problem surfaces. Also, it is the owner's requirement for a cost estimate that must be satisfied. So, as with the other aspects of small project

work, only develop the estimate that needs to be done and not the one that traditional project delivery usually requires.

Our approaches to the cost estimating question use three basic concepts.

Don't do it.

Often a project's parameters or scope are already set, making the need for an overall number unnecessary. Instead, a basic budgetary approach to project design such as low quality, medium quality, or the sky's the limit, can guide the design until bidding numbers are in. If the project is moving fast, this may be the only option anyway.

Use very general national cost data, such as Means Square Foot Cost Data.

This concept is often enough to get a general parameter of construction costs, satisfying a client's general budget needs. We have found that a good honest discussion with the owner of known project costs, along with all of the potential variables, is the best way to prepare and strategize the project for the ultimate impact of those changing circumstances.

Hire someone else to do it, such as a general contractor or professional cost estimator.

When there is no recourse and a hard number must be arrived at, go get an expert and let that person use expertise and judgment to develop a hard number. Just be sure that the owner has confidence in the expert and that the expert will stand behind the work.

These approaches have evolved over time as we continued to be burned by our preliminary guesses or even detailed estimates, all soft numbers, which the Owner then relied upon as hard numbers for budgeting, or worse, mortgage commitments. A little humility may be involved here, but as generalists in a world of specialists, it's best to find an expert to develop that cost estimate and stand behind it.

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Small Projects Local Advisors

*Donald Wardlaw, AIA
Oakland, Calif.*

We have begun to incorporate into the workings of the PIA a network of local contributors who we call local advisors. I thought you might like to know who is working with us in this capacity now, what they will be doing, how we hope to develop the concept, and how you can participate if you wish.

The advisory group members, Rosemary, Gabriel, and myself serve as local advisors to our chapters, AIA Minneapolis, AIA San Antonio, and AIA East Bay respectively. In addition we welcome: Sam Osborn, AIA, AIA Atlanta; John Ireland, AIA, AIA Connecticut; Mark Robin, AIA, AIA Middle Tennessee; Rachel Simmons Schade, AIA, AIA Philadelphia; Lauren Mallas, AIA, AIA San Francisco; Chris Chu, AIA, Boston Society of Architects AIA; and, Ty Morrison, AIA, Central Idaho Section AIA.

Each has agreed to represent the PIA within his or her chapter and make specific contributions to the larger PIA. We have provided each with a roster of members in his or her chapter. Each is expected to maintain a good awareness of chapter activities of interest to small-project architects and help us hear how the PIA is seen at the local level. We are sincerely driven to make this a useful resource.

What small-project architects want and need is insight that will assist them in developing their own expertise in small-project work. That expertise is found mainly among our colleagues who pursue small-project work. Our challenge remains, therefore, to foster interaction, a sharing of ideas and experience, and fellowship. At this time we effect this exchange mainly through our publications, such as this newsletter, but also through recordings of special seminars and programs.

Each local advisor has agreed to invest in this effort. Each will funnel an article, a profile, and

four practice tips on a schedule spanning the year. These may be written by themselves or others in their chapters. Some have already solicited additional contributions. We are extremely proud of the people who have agreed to join us thus far. If any of you would like to participate as a local advisor in your area, please contact the author. We would like to have a total of 20 by the end of the year.

We think our local advisors will help us all see good ideas when they crop up locally. We also hope that the local advisors will help us disseminate knowledge and ideas surfacing at regional events we participate in. The national convention is one example. We are also participating in a regional conference in Nashville this fall. We are looking at a distribution of audiotapes and other materials to local advisors for informal local distribution.

We also asked our new advisors, except the most recent additions, to prepare a brief description of their chapter activities vis a vis small-project architects. We thought you might like some perspective on how chapter efforts differ, or are alike, around the country.

Report From Philadelphia
Rachel Simmons Schade, AIA
Philadelphia

In April 1994 I asked a number of local architects to join me to discuss the formation of a small-firm committee. My interest in the subject was a natural growth out of my two-year tenure as a chapter board director and my own con-

cerns about the value and practicality of sustaining my membership dues. I have owned my own firm for seven years and have been an AIA member for ten.

The purpose for gathering the first time was to look at three issues. We wanted to do some **research**, to find out just what exactly we were getting as small-firm AIA members and find out how many of us there were nationally. And we wanted to know if we were properly represented at higher decision-making levels. We were also interested in **networking** opportunities. As isolated individuals we don't have the same opportunities as other architects to share information about technical issues. Having been a cofounder of the Eastern Pennsylvania Young Architects Forum, I knew the value of the schmooze factor. We also knew that no one was about to offer us all of what we need as small firms, so the third item on our agenda was to begin to **provide services** to small firm owners by having regular meetings and seminars to share practice information and receive advice from outside consultants.

The research part of our agenda concluded after five meetings with a three-page letter outlining recommendations at all three levels of AIA management for serving small firms better. This was issued to all of our representatives in Philadelphia, and a select few at regional and national levels. The response, which came as no surprise, was underwhelming. It did, however, land me the title of chair of the Small Firm Committee,

which has since hosted three seminars on small-firm management. We look forward to our next meeting in a few weeks when four notable Philadelphia architects will present their own case histories at Growing the Small Firm. These seminars are open to all (AIA and non AIA). We have developed a mailing list of about 50 small-firm owners, and we also advertise events in our chapter monthly newsletter. The general goal is to have regular low-to-no-cost events, hosted each month by a different member of the committee. As chair I maintain the mailing list and help coordinate the seminars. And now I am happy to be the local liaison to the Small Project PIA.

Boston Society of Architects
Chris Chu, AIA
Boston

The Boston Society of Architects (BSA) has several venues for addressing the needs of firms that do primarily small projects. The Small Firms Committee and the Sole Practitioners Committee, though not specifically limited to small projects, meet monthly to share common problems and solutions and also have spawned several spin-off task forces. A bimonthly beer-and-pizza design salon offers practitioners a chance to crit each other's work. A Home Show Task Force has been active for several years with three shows per year at which the Boston Society of Architects sponsors a booth. Volunteer architects present seminars and offer free 20-minute plan reviews to the public. Archi-

tecs may also submit as many boards as they wish for display, with a fee per board that is applicable to all three shows. The response to the free consultations was overwhelming at the February home show due to good advance publicity in local papers. Architects actually get work from these home shows!

The Promoting the Profession Task Force recently formed to address the apparent need to give architects more visibility in the community at large. The general public's lack of awareness of the range and type of services architects provide was quite evident in conversing with people who attended the home shows. Even if they are aware of, and desire, the services of an architect, the general public does not have an easy task of finding and choosing the right architect for their needs. The BSA currently sends, free of charge, a list of member architects who do residential and small-scale commercial projects to anybody who requests it. But once the list is in hand, how do people start to choose the appropriate architect for their needs? A couple of ideas still being researched include a telephone referral system, which would preselect a designated number of architects based on matching from two databases. Another is a publication in which architects would pay a fee to have a full-size page representing their firm, designed and submitted camera-ready by them. A third more general idea to increase visibility of architects is to present seminars, similar to the ones presented at home shows, on

how to work with an architect, at local libraries on Saturday mornings.

Also coming down the line, the BSA/Small Firms and Sole Practitioner Committees are offering a workshop series, to be held in the spring, with the AIA's management expert Jim Franklin on project management, fee setting, etc., geared for small firms and sole practitioners.

Central Idaho Section AIA

Ty Morrison, AIA
Boise, Idaho

Boise's Treasure Valley, also known as the "Banana Belt" has proven to be fertile grounds for small projects over the past three to five years. The region, which comprises a portion of the Snake, Payette, and Boise river drainages, is home to about half the state's population. Media hype has exaggerated the appeal and growth of the region, as well as the state, by citing recent surges in population growth and low crime rates as proof of Idaho's livability. Temper that with the reality of a statewide population of just over a million living in the nation's eighth largest state, and one must characterize Idaho's architectural scene as largely "rural transition." Boise, the state capital, is also the largest city. Combined with neighboring cities of Nampa and Caldwell, Boise represents a metropolitan area of approximately 250,000 with a diverse makeup of service and clean industry including Hewlett-Packard and Micron Electronics.

While the growth percentages for

new housing and commercial starts have risen steadily in most of the larger Idaho communities, the actual number of projects remains quite small when compared to more populated regions. Boise is by far the leader in both the number of projects and dollar volume, based on permits issued. Single-family detached housing has led the charge in the residential sector with one- and two-story wood frame homes 1,500 square feet and up. Apartment projects are few and relatively small two- and three-story wood framed structures with up to 18 units each. Commercial projects have also seen steady growth, picking up the slack when housing slows with interest rates. Most of the commercial is small retail or pre-engineered wholesale distribution type projects, typically one-story. There is little in the form of market share for remodels, historic renovations, or energy/sustainable systems design, although some are able to practice within these specialized areas. ADA and Life/Safety code compliance work always provides a steady stream of small projects.

Almost half of the 260 Idaho AIA members work in firms of four or less. There are about a dozen firms with 10 or more staff. Depending on how one chooses to define small projects, much of what is currently being designed in Idaho would likely fit the small-projects description. The demand for architectural services seems to be well balanced with the supply of architects, leading to a guarded optimism for the future. Use of the computer as a drafting tool is

encountered in slightly more than half the practices. There is an increasing demand for computer-generated documents by clients who perceive them to be more accurate and cost effective. Residential clients are increasingly more interested in animated 3D modeling, but most are seldom inclined to pay much of a premium for it.

Most small-project clients are interested in architectural service efficiency, often seeking to expedite the documentation process in hopes of quicker issuance of a building permit. A majority of these projects require full basic services, are invitation bid, and administered during construction by the same individual. When more than one member of the architect's staff is involved, they are usually providing specification writing or construction administration support. Consulting engineering services are increasingly be required as more communities adopt life-safety codes or define plan review procedures to meet current standards. There are still 14 counties in Idaho with no form of building code except some plumbing and electrical inspections required under a state law!

Communication among AIA members is difficult. Aside from a bimonthly newsletter and personal contacts, members throughout the state are very restrained in sharing ideas and information. Despite the increasing use of electronic technology, e-mail and AIAOnline are not widely used, if at all. The Central Section has begun sponsoring a secondary monthly meeting, dubbed "AIA After-hours," to encourage a less formal gathering

and sharing between members than is experienced at the regular monthly luncheon meeting. The "after-hours" roams from office to office or gathers at a hosted bimonthly presentation. The office gatherings of 25 to 30 members are designed to encourage practice-related dialogue among individuals and small groups in addition to an improved sense of camaraderie. The hosted presentations combine a supplier/vendor or other architecturally related host with an instructional program geared to provide the members with access to learning units under the new CES criteria. This program is now in its second year and seems to be growing in popularity.

Growth is the biggest concern for most of us living in the region. While Idaho is geographically diverse, and largely rural, the habitable areas are fragile and limited. The balance between environment, lifestyle, and prosperity is delicate at best and is being sorely tested by the recent boom in construction. Many communities are struggling with planning issues with little guidance. The small project affects the character of almost every facet of the built environment, like a single pebble adds to a mountain. The architectural profession will hopefully step up to the plate and help to plan and design an Idaho we can be proud of, rather than another example of failing to learn from the lessons of the past.

Middle Tennessee Chapter AIA
Mark L. Robin, AIA
Nashville.

Although the Middle Tennessee Chapter is an active, vibrant component, at present there is no small-projects or small-firm group. Solicitation in our monthly newsletter and announcements at our meetings haven't rendered volunteers.

Hopefully once the value of sharing and exchanging knowledge is appreciated by Middle Tennessee small-project architects, a group will emerge. It is this personal contact, member to member, that will create the yet to be found body of knowledge of small projects. Certainly the national staff cannot be expected to feed us the wisdom, for this expertise lies with the small-project practitioners and has not been studied or documented to the extend of large, traditional projects. Participating in the compilation of the body of knowledge of small projects is the exciting opportunity of membership in the Small Projects PIA.

San Francisco:
A Great Place to be Small
Lauren Mallas, AIA
cochair, SFAIA Small Business
Committee
San Francisco

If you need a way to network in the Bay Area architectural community—the SFAIA Small Business Committee may be the answer. Ours is a very active group of approximately 20 members, composed variously of architects,

contractors, developers, attorneys, and interior designers. The breadth and depth of our agenda is testimony to the power of micro firms.

The heart of our efforts occurs at a monthly planning meeting where we enjoy breakfast together at a local restaurant. We plan future programs, recap and evaluate past programs, do general networking, and most importantly enjoy ourselves and each other's company. Average attendance is 10 to 12 members. If we provided this meeting alone, I think most of our members would think it worth the price of membership. But look at what else we offer:

Monthly roundtable: a noontime brown-bag event held at the chapter offices on a variety of subjects of particular interest to small and micro firms. Past roundtable subjects have included: Computers for the Small Architecture Firm, Personal Presentation and Marketing Skills, Real Estate: Roles for Architects, Insurance for Small Businesses, Managing Office Growth, Banking for the Small Firm, Mediation and Conflict Resolution Techniques, and Strategies for Increasing Profitability. This month we had an outstanding discussion on "Small Green Projects," led by eco-contractor/consultant John Picard, who spoke at last year's convention in LA. Average attendance is 10 to 20 and includes a wide cross section of members and nonmembers.

Semiannual firm visit: an end of the workday event at one of our members' offices. This is a chance to meet on our own turf, view office setup and work in progress.

The December edition of this event is also our annual Holiday Party, a chance to share libations and some Pollyanna gifts—selected with outstanding humor and aimed at our architectural foibles.

We are currently planning our third biannual event: an exhibition entitled Small Firms/Great Projects. This exhibit is open to small firms only—those firms with 10 or fewer employees. We charge a fixed fee for each project board submitted and use the fee to publish an exhibit catalogue. The catalogue is sold at the show, the chapter, and several bookstores, including the SFMOMA. We expect to have more than 150 projects exhibited this fall.

Our committee cosponsors at least one or two forum events per year. These have been evening events which attract 40 to 80 participants to the chapter. Last year we cosponsored "Lessons from the Northridge Earthquake" with the chapter codes committee. Currently we are planning a full-day workshop on "The Changing Role of the Architect"—we think small firms are the future!

If you would like information about our committee or any of its programs, please feel free to contact me via fax at (415) 673-7445 or ALAOnline #43624.

Compensation Survey on Hold

*Donald Wardlaw AIA
Oakland, Calif.*

In February of 1994 we surveyed Small Projects PIA members to identify areas where we should focus our professional development efforts. Our current newsletter special focus, cost estimating, and our convention programs on marketing and computer use with small projects, were all derived from survey results which indicated substantial interest, and marginal ability or confidence in those areas. In the survey responses, however, the topic with the highest interest (79%) and nearly the very lowest skill or confidence level (12%) was "Pricing Services."

Harry Jacobs FAIA, whom many of you may know as a parental force in the creation of our PIA, offered to prepare a paper for us on a topic of interest to PIA members. (Any of you may embark on such an undertaking at any time, but I digress). Jacobs proceeded to prepare a survey on how we price our services. The survey was designed to look at:

- Our practice types (location, size, kind, clientele, project cost range)
- Our methods of compensation (% of construction, hourly, variations)
- Rate of compensation (how determined, task variations, client variations, discounts, variability with economic

conditions)

- Compensation negotiations (how much is negotiable, availability of reduced service levels)
- Competition (do you compare rates with competition, how, do your clients compare rates, how)
- Accounting (how do you monitor income and expenses)
- Collecting compensation (difficulties, frequency, problem client types, late fees/early pay discounts, how to compel payment)
- Marketing fees (when/how is it discussed, rate importance in marketing)

We announced this effort at convention and many of you have volunteered to contribute your experiences. Jacobs realized that this topic would have to be approached in a manner that did not violate the limitations imposed on us by the 1990 Consent Decree. We are enjoined by this agreement from certain practices, notably practices, programs, policies which would in effect prohibit or restrain AIA members from submitting competitive bids for services, offering discounts and providing free services. It has become standard procedure that AIA members do not discuss, in the context of AIA events, their billing rates and the fees they charge. Jacobs, therefore, designed the survey to avoid asking the particular questions we know we should not ask, and also submitted it for review with AIA Associate General Counsel David K. Perdue.

We have been advised that it would not be a good idea for us to conduct this survey ourselves. The Justice Department has, however,

published guidelines for the collection of fee information which should allow us to get answers to the questions we pose. The noteworthy aspects are that: we need to have someone outside of the PIA prepare the study; the information reported back to us must be at least 3 months old; and, the survey must be derived from responses of no more than 25% of our PIA membership.

We will attempt to find a way to arrange for the production of this survey. Please contact the author if you have any helpful observations or suggestions (short of taking on the Justice Department, please).

A Success Story

*Preston H. Quirk, AIA
Nashville, Tennessee*

Goal: one man architectural firm designing residential additions & remodeling projects, new custom residences, and a mix of small commercial projects.

Result: After 3 years, Quirk Designs is a well established, busy and enjoyable architectural practice doing the types of projects listed above. The firm has a list of over 50 satisfied clients, an annual volume of over \$2,000,000 in construction costs, and an average project size of approximately \$100,000.

Reasons for this success include the following:

Planning - Prior to the start of Quirk Designs, I spent over 1½ years planning the start of my firm. This planning process included important steps such as preparing a written marketing plan to help identify target sources for projects. Any MBA course suggests this when starting a business, but few architects follow this recommendation when starting a firm or when needing more work. Good books on marketing for small firms are available that can guide you through this simple process to help you write a plan outlining where you can obtain the work you desire. An important part of marketing should be letting everyone you know that you are in business (and keep reminding them!) and that you are looking for certain types of projects. I have designed several projects for clients referred to me by architects in larger commercial firms, and from other people that I would not have expected as potential contacts for projects. "Networking" can be extremely beneficial for a small architectural practice.

Business Plan - Another common business start-up step is preparing a written business plan projecting your income and expenses, preferably for a "slow" month. Any improvement over this plan will give you additional discretionary income to allow for equipment upgrades, office improvements, etc. If possible, pay cash for major purchases to avoid long term debt. Start at a manageable level and add amenities to your office as your practice matures.

Provide Great Customer Service - LISTEN to your clients and give them what they want. I have taken over projects when a client became dissatisfied with other architects. I am frequently complimented because I listen and respond to the client's needs and desires and provide an appropriate level of design input. Too many architects ignore the client's true wishes and try to impose undesired personal goals of the architect on a client's project. A truly satisfied client is your best source of future projects through referrals.

Tailor your services to the client's project, and ask your clients how you can best serve their needs for quality architectural services. Take a common sense approach to the design of small projects by acknowledging and working hard to adhere to a client's design and available construction budget. Most people that want an architect for a \$50,000 project don't want to and/or can't afford to spend 10% on design fees. Provide an appropriate amount of design input to give the client a quality project.

Don't over-detail drawings for a simple project. A reputable contractor knows how to build a stud wall with a double top plate and match an existing overhang detail. Detail the unique conditions and the features that make the project special.

Stay well informed on construction costs for small projects. Develop interesting ways of using standard products that are simple to construct. Your clients will appreciate these value-added benefits greatly.

Keep accounting procedures simple. I spend about 4 hours a month on all of my billing and financial record keeping using "Quickbooks" software. Include any small expenses you can into your hourly rate instead of spending many hours tracking and billing several hundred dollars of expenses.

Use a simple contract form. Have it reviewed by your lawyer, but don't spend hours writing contracts for small projects—spend your time designing!

A basic element of my success on small projects has been setting up my practice as a response to the question "how would I suggest that an architect provide services to me for a small project?" Think about this question for yourself and see if you can simplify your approach to small projects by offering your services in the most "client-friendly" manner.

Member to Member

Contribute Your Ideas to Upcoming Issues

Issue #5 of the Small Projects PIA newsletter will feature, "Working with Existing Conditions." Articles are due to Donald Wardlaw, AIA, on August 10, 1995. Following that, issue #6 will focus on "Architect/Builder Relationships." The due date is December 10, 1995.

You are also encouraged to contribute either a 300-500 word article or a paragraph or two for "Tips and Techniques." We are also looking for a humorous, remarkable, or bizarre experience you may have had during an initial site visit.

For more information, or to submit your ideas, call the Vice Chair of the Small Projects Forum, Donald Wardlaw, AIA, at (510) 268-9524, or send a fax to (510) 268-0964.

Risk Management Kit Addresses Liability Issues

- Do you need insurance?
- Should you buy insurance
- If so, what kind?

Many architects carry professional liability insurance to protect their ability to practice should a negligence claim be filed against their firm. Unlike an "occurrence-based" automobile or home-owner policy, professional liability insurance is written on a "claims-made" basis. This means that the policy must be in force not only at the time an error is made, but also at the time a claim is filed, which can be many years later.

Some architects obtain insurance as a marketing tool; many corporate and public clients require professional liability insurance.

Insurance companies vary widely in the amount and type of services

they offer. The AIA works to set industry standards with the recommended CA/Victor O. Schinnerer program, which provides risk management and loss prevention services such as seminars, free contract reviews, articles and legal newsletters, and participation in local and national AIA programs. These services are designed to support and educate architects and to help reduce likelihood of a claim.

If you are considering professional liability insurance, the AIA, in response to member needs, is offering an up-to-date, comprehensive resource. The new Architects' Risk Management Kit, produced by Risk Management is composed of three publications: "How to Select a Professional Liability Insurance; Liability Insurance Survey"; and "Office Guide to Insurance Programs." These reports provide an overall look at the insurance requirements and alternatives of the firm. A guide to selecting the right professional liability broker is included, as well as current information on professional liability carriers and their policies, understanding the Best rating system, and learning how and why to purchase professional liability insurance.

For more information about the new AIA Small Firm Professional Liability Insurance Programs call 1-800-SMALLFIRM (762-5534).

To order these and other products from the professional interest areas, call 800-365-ARCH (2724). Order #J364, \$14/\$20 (Prices given are member/nonmember price.)

TIPS AND TECHNIQUES

Cost Control

*Rachel Simmons Schade, AIA
Philadelphia*

When bidding work competitively, I often find it useful to have the contractors break out their pricing so my client can consider alternatives when the numbers come in. Specifically, we use "allowances," "add and deduct alternatives," and "unit prices" for renovation work. I am currently working on a project that involves the renovations of 19 apartment buildings built 35 years ago, many with deteriorating doors and casings. Rather than inventory the immense number of doors to be repaired or replaced, we asked the contractors to bid unit prices for each type of door to be worked on, specifying type, hardware, etc. This saved my client money in the construction document phase.

My client and I review each building with the contractor as they prepare to renovate the buildings and determine the extent of additional unit price work to be done. Since everyone is participating in the process, no one feels as though the prices are unreasonable.

Rachel Simmons Schade, AIA, is the sole proprietor of Rachel Simmons Schade Architect, which provides full services for residential, commercial, and institutional clients in the Philadelphia area, (215) 731-0390.

Cost Estimating/ Bidding Cautions

*Gabriel Durand-Hollis, AIA
San Antonio, TX*

According to cost data tracked by F. W. Dodge in San Antonio, Texas, construction costs have jumped as much as 22% in the past six months for certain construction types. This is apparently due to a few large projects taking much of the available labor and certain materials. No one knows if the prices will drop once these projects are built, but cost estimates using data seven months old will likely be inaccurate. When you prepare cost estimates for your project, be sure to call some contractors that are active in the area and are knowledgeable of cost trends. As in San Antonio, factual data can be out of date in a short period of time. Also, check the bid calendar with local plan rooms to pinpoint a bid opening time for your project. Look for a time in which few large projects are being bid. We saved one client over 10% on one project simply by waiting three weeks for a better bid date.

Gabriel Durand-Hollis is a partner with Davis • Durand-Hollis • Rupe Architects in San Antonio, Texas. The firm designs commercial, local governmental and religious projects. (210) 377-3306.

Cost Estimating Resources

*Mark Gunstad, AIA
Minneapolis, MN*

There are various resources available nationwide which provide firms with construction cost data information. Two of the largest firms are: R. S. Means (1-800-448-8182) and Marshall and Swift (1-800-544-2678).

Since 1942, R. S. Means Company, Inc., has been actively engaged in construction cost publishing and consulting throughout North America. The Means Organization can assist and help in estimating as well as in the solution of construction problems through the services of its three major divisions:

Construction and Cost Data Publishing

A full array of construction cost estimating books such as the Annual Cost Guides as well as a number of other reference works for the construction industry.

Electronic Products and Services

All of Means Construction Cost Data can be accessed through computer.

Consulting and Educational Services

Construction seminars and in-house training programs.

For sixty years, Marshall and Swift has been a leading publisher and source of building cost data for the construction, real estate, appraisal, and insurance industries. Marshall and Swift publishes construction cost data such as: Dodge Unit Cost Book, Marshall Valuation Service, and The Digest of Building Contract Awards, among others. Estimating software is also available.

Mark Gunstad, AIA is project architect with McMonigal Architects in Minneapolis. (612) 331-1244

A Contractor's Approach

*Theodore Koch
Bellevue, WA*

Delteko Homes, a residential construction firm, is based in Bellevue, Washington. We provide a unique service which aids architects and their clients in planning residential projects. Delteko helps the architect and owner at the time preliminaries are being prepared, to establish budgets based on current market costs. We provide detailed information about costs and review details for architectural evaluation, based on our 30 years of construction experience in the Seattle area.

With the proper budgeting, we feel that the final cost of the project can be held to within 5% or less of the preliminary budget. Typically the fee for this service is 1% of the projected budget or

\$2,000, whichever is greater. The fee includes site inspection and preliminary staking of the house; material take-offs for lumber, etc.; and subcontract estimates for major subcontracts such as plumbing, wiring and roofing.

At the time plans are complete, we welcome the architect and owner to solicit competitive bids. Delteko agrees to submit a firm bid at that time. If Delteko is the accepted bidder, the preconstruction fee is credited to the construction contract.

Many of our projects are negotiated on a fixed fee contract not to exceed 12%. An open book accounting of costs, a joint project checking account for payment of bills, ensures that a non-adversarial relationship is maintained, thus ensuring the lowest possible construction costs.

Ted Koch is owner of Delteko Homes in Bellevue, Washington, a company which provides consultations, costing and current construction data for architectural evaluation. (206) 455-5819.

Cost Estimates for Small Residential Projects

*Larry Mortimer, AIA
Oakland, CA*

For small residential renovation and addition projects, I usually do the cost estimate myself. I use a system produced by HomeTech Information Systems, Inc., 5161 River Road, Bethesda, MD 20816 (1-800-638-8292). This reasonably priced system consists of an estimating manual (published annually) and a local area modification index that is mailed to you quarterly. The system is particularly useful because it is specifically geared to remodeling and renovation projects. The manual is divided into two sections, a speedy reckoner (which gives you costs for a whole deck or an addition) and a section with detailed line item unit costs. I seldom use the speedy reckoner but it can be useful for a very preliminary estimate.

I start by doing area take-offs and keep a set of design documents handy to mark-up as I go. I then go through the estimating manual line by line deciding whether each line item applies to my project or not. If it does, I enter the description, units, unit cost, local area modifier and amount into an Excel spreadsheet and let the computer do the math. For items not covered in the estimating manual and there are surprisingly few, I go to past projects, suppliers, or subcontractors for the cost data. The beauty of this

system is that it not only provides the unit costs, it also acts as a checklist so that you are less likely to forget something. Don't forget to include A/E fees and a contingency amount in your estimate. I usually add a 5-25% contingency line item depending on the uncertainties of the project.

Lastly, don't look at the bottom line until you have carefully gone through the complete estimate. Looking tends to make you temper the estimate downward. I find that if I carefully go through the manual line by line, look for items that are not covered by the manual and don't peek at the bottom line until I am finished, I can consistently produce realistic estimates. By the way, many contractors use this system.

Larry Mortimer, AIA is a sole practitioner providing residential and small commercial design services and is a Macintosh computer consultant to other design professionals. (510) 482-1031.

Allowances and Alternates

Mark Robin, AIA

In the execution of residential projects, allowances, and alternates are good tools to control costs and increase your chances of receiving apples to apples competitive bids. Allowances for illuminaires, plumbing fixtures, brick, floor and certain wall finishes, kitchen appliances and similar items extend the time for final selections and approvals. Yet the same cost for these items are provided from all bidders. Remember allowances are only for the actual cost of the material delivered to the site. Unloading, prep work and installation cost are in the base bid, not the allowance.

Alternates, which usually are just verbal descriptions, allow you to easily price separate, acceptable choices that have different prices. I always include the most costly option in the base bid and all alternates are deducted. Now your clients have options that reduce the cost of their projects.

Mark Robin, AIA is a sole practitioner providing service oriented architectural services on a wide range of projects from a \$20,000 bathroom remodel to a 186,000 square foot office/distribution center. (615) 254-0211.

Small Projects Forum Professional Interest Area

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Publications

These AIA publications provide relevant information to small-projects practitioners. They are available through the AIA Press catalog and Bookstore or by calling 1-800-365-ARCH (2724).

Current Practices in Small Firm Management: An Architect's Notebook

James R. Franklin, FAIA

This timely hands-on book, based on the successful "optimizing the small firm" workshops, explains how to improve competitive position by spending less time on management and more time providing clients with quality architecture. It is a valuable reference filled with management tips and ideas that have worked for other architects. (190 pp; Order #R942)

How to Start Your Own Firm Kit

James R. Franklin, FAIA

This "kit" version addresses issues vital to setting up a firm and include the complete text of **Current Practices in Small Firm Management**. (230 pp; Order #R942-CS)

Small-Projects Documents

A105/A205—Standard Form of Agreement Between Owner and Contractor for a Small Project and General Conditions of the Contract for Construction of a Small Project with instruction Sheet wrapped (1993). (two-document set)

B155—Standard Form of Agreement Between Owner and Architect for a Small Project with instruction sheet wrapped (1993).

(Small-Projects Documents may be purchased from your local AIA Documents Distributor or by calling 1-800-365-ARCH (2724).

Contributors Needed

Do you have an article or tip idea that you would like to share with your peers? The Small Projects PIA Report is seeking contributions of articles of interest to small-projects architects, individual small-projects architects profiles, and tips on small-projects practice.

Please send your ideas, tips, and articles on a 5¼" or 3½" disk—along with illustrative photos, drawings, and charts to: The American Institute of Architects, Small Projects Forum, 1735 New York Avenue, NW, Washington, DC 20006-5292 or fax (202) 626-7518.