

What will be my Construction Costs...It Depends

By J. Edgar Fennie Jr. AIA

“How much will our Tenant Improvement project cost?”

“We just want to tear down a few walls and convert the storage room to a small server room, that can’t cost a lot, right?”

“Why is it so hard to determine construction costs upfront?”

During the early phases of an office relocation I often hear questions like these repeated by clients seeking to pin down the cost question, so they can get a handle on the financial commitment they about to make. Many times the project costs are first brought to their attention when the prospective landlord offers a Tenant Improvement allowance. Invariably I will get a call to confirm that the amount offered is sufficient to cover the actual costs the tenant is likely to incur, so that they will not have to come out of pocket the fund the construction. Although the question is undeniably simple and straight forward, the answer is nonetheless very difficult to answer and at best, if an Architect or Contractor does throw out a number, it is most likely quickly followed by long list of qualifiers which can render the answer meaningless.

Why can’t a tenant get a straightforward answer? It seems simple enough, but it can be frustrating when lease negotiations are proceeding apace and a tenant needs to evaluate carefully the financial ramifications of their lease before they execute the contract. The construction cost is a huge part of that financial commitment and when it can’t be firmly established upfront it adds to the risks of leasing in any given building.

Factory production versus on-site assembly

When you go to buy a car and ask what will it cost, in a few minutes a car dealer will tell you exactly how much your new car will cost. Or how about other large purchases, such as appliances or a boat, the costs are right on the sticker, so why don’t construction prices have a “sticker price”? To answer that question we have to begin by digging further into the processes that lead to the completed item being delivered.

We live in a highly industrialized society, and many items that we consume everyday are fabricated or at least processed in a factory setting, from the clothes we wear to the furniture you are sitting on, even the food we eat is processed and shipped to our local retailer, where the price is established. All of the material costs and labor costs (including shipping, marketing costs, and profit) are included in that price. The item has been built up with commodity materials purchased in bulk, and assembled by a skilled, permanent labor force, and shipped in bulk to the store. The item has been designed and redesigned to keep the costs at a minimum, the product quality high, and the assembly time to a minimum. Indeed, the trend over the centuries is to continually reduce the labor time to bring costs down. The labor costs are, for the most part, very predictable and usually highly controlled, either through negotiated contracts established through collective bargaining or through market forces. Costs added by regulation from outside government entities are also fixed and most likely are reflected in the final price, sales tax being the exception. Therefore a producer usually has a very accurate picture of what the costs are (and more importantly how much an item will fetch in a given market) before the item ever leaves the assembly line.

A Question of the Number of Variables

So how is the construction process any different? For the most part the assembly of buildings (or Tenant Improvements) hasn't fundamentally changed over the centuries. Compared to factory production where most costs are for materials, construction is a labor-intensive process, utilizing generally local materials, assembled by itinerant project teams of a mix of skilled and semi-skilled labor creating a product which is unique in time and space. Picture the Bilbao Museum designed by Frank Gehry or locally the new DeYoung Museum by Herzog and de Meuron and you will understand that it is exactly the uniqueness of a building which belies the desired predictability of the costs for construction. You most likely will hear our politicians exclaim, "They have never built that before." when describing why a large public works project has gone "over budget". And they are right. Without the design and redesign processes factories would also struggle with unpredictable costs. Instead of thinking about your project as just like some other project only in this location, consider the construction project as building a full scale mock-up for the first time and you'll understand what I mean. (The exception to this is what subdivision home developers do; build individual houses using the same design, constructed sequentially in close proximity to the last unit, with fixed teams of skilled workers. This allows them to determine their costs much more accurately.)

Although your Tenant Improvement project may be similar to the last one you did in reality it has never been done before. A team of workers will have to be assembled, many of whom have never worked together before and may not ever again. This means that your contractor will have to collect all workers for your project, orient (train) them about the unique conditions of your particular building space and of this particular design, a design that they have never seen before. Although the contractor will look for people who may know your building or may be familiar with a particular designer's work, each team and each space is unique. The amount of experience a team has will vary along with the labor costs for individual members. The more experience a worker has the more efficient they are, hence lower cost but possibly higher hourly rate. It is the uniqueness of a team that drives the unpredictability of the labor costs.

Each Project is Unique

Because no two buildings are exactly alike the infrastructure and the existing condition of the space will vary. For example, prior to the tenants arriving some office building developers will have installed the main heating ventilation and air conditioning (HVAC) system (including the chillers and main fans) but not the distribution systems on any given floor. Or they may have installed everything but the VAV boxes for each of the zones on the floor. Another approach is to install the VAV boxes in but no distribution ducts downstream from the boxes. Or even yet, if the space is a second generation space (it was occupied by a previous tenant who made improvements) and offered "As-Is" you may inherit all of the HVAC components, but some pieces may need replacement due to age, and some components likely will have to be relocated and recalibrated depending on your particular room layout. The actual condition and completeness of the HVAC system can have a huge impact on the costs of your tenant improvements. Unless the existing system and your planned redesign of the system are closely evaluated by a knowledgeable engineer or mechanical estimator, HVAC costs cannot accurately be determined.

When your space is built out by the contractor they are charged with buying out all the materials for the project. Some of the materials are purchased regularly, so the prices are predictable, but unstable market forces can and will affect these prices, so they may still be somewhat volatile. Until the actual order is placed the price of any given material is variable, so the longer the time lag between when your estimate is developed and when the orders are actually placed, the higher the risk that the prices could increase.

When you first need to get a handle on costs is usually early in the leasing process and you may feel it is too early for you to sign up a contractor, indeed you are unlikely to even have an approved Space Plan at the point where you begin budgeting your construction costs. But if you have your contractor sign a Lump Sum or Guaranteed Maximum Price (GMP) contract, and the costs go up even though you haven't changed your design, the contractor will have to absorb the cost increases. If you sign a cost-plus contract you pay for the increases (and benefit from any cost savings as well). But until you sign a contract, you are going to be directly subjected to the market forces.

A Better Way

So back to our initial question, "What's it going to cost?" The only way to truly answer that question is through the collection of more information. The better your project is defined the more accurate the estimating can be. Traditionally a tenant would hire an architect (who in turn hired design engineers as consultants for the HVAC, Electrical and Life-Safety systems) to complete a Space Plan and the subsequent Construction Documents. The CD's were then issued to 3-4 contractors for competitive bids. This project delivery approach (sometimes referred to as the Design-Bid-Build approach) was utilized for decades and is still in practice for many projects. However, it has some downsides, one of which is that the Owner goes blindly through the design process without having a good handle on the final price, and typically, if all the bids come in over the budget amount, there is a mad scramble to quickly redesign the project to bring down the cost and try to keep the project on schedule. Cost overruns and schedule delays are common with this approach. So what is the problem with this approach? The person who has the most information about construction costs (both materials and labor), the general contractor, is kept out of the design process. Then they are put into a competitive bid situation which at best keeps him or her at arm length from the owner and design team. Animosity is high, changes are not only common, but costly and the contractor's knowledge and experience is brought in very late in the game. Many design professionals are realizing that this is no the best approach.

A newer approach that is becoming popular is a Design/Build project delivery system or some variation thereof. In this approach the owner, or tenant teams up or partners with a contractor (usually after a selection process which may or may not include a competitive bid process on fees and mark-up's) before any Construction Documents are drawn up. The contractor is brought in early to review the design as it is developed and to produce accurate cost modeling to keep the owner or tenant informed of the likely costs once the project is bought out. If the costs are expected to be above the owner's budget the design can be modified as the drawings are developed. In that way the final Construction Documents will reflect a design the tenant will likely be able to afford, and it eliminates most of the surprises. This in turn helps keep the project on schedule and without significant delays.

Early on in the preconstruction or design phase, with an approved Space Plan and with the help of an architect and contractor (who are familiar with the particular building and have worked together) your team should be able to give you a reasonable budget estimate, with a +/- 20% range of variability. When the construction documents are 75% complete the contractor should be able to refine construction cost estimate to within a +/-10% range, and when the project is bid to the subcontractors the prices are locked in and any price variability risk is then transferred from the tenant to the subcontractors.

Some people have questioned the use Design/Build process as it gives up some of the hard competitiveness of a normal hard bid process, which is quite possible, although the general contractor should be hard bidding all his subcontractors, which may amount to 80-90% of the total project costs. So in reality you may be giving up hard bid competition of say 10-20% of the costs in order to get the contractor onto the design team early in the process, so that you can proactively control your design

and construction costs as the project develops. Many people find themselves in situations where delays can be costly (e.g. lease hold-over clauses with steep penalties, and/or missed business opportunities or milestones) and they find that the risk of project delays outweigh the minimal lost competitiveness in construction costs. And indeed, having the contractor become your partner in the design process usually means the project will be of a higher quality, somewhat lower architectural fees, and be run much more smoothly.

Project Teaming Strategy

So what will it cost? The answer is, "It depends." It depends on your project delivery approach, your tolerance for risk, your need to deliver the project at the lowest possible price, your schedule, your location and most importantly your team. Critical to assembling your project team is the architect, and they should be hired as soon as you start looking for a space. After discussing your particular situation, your architect should then be able to help you strategize your project delivery approach and budgeting process.

When selecting your architect make sure who you chose is adept at providing functional unique designs in a team environment, and be open to working with the contractor to deliver the best possible project, on time and at your expected cost. Egos need to be checked at the door and all members of the design team will need to work together to develop a functional and affordable design. Excluding the contractor from the design team keeps an important member of the team from bringing important cost and schedule information to bear on the project, and ultimately delays the answer to the cost question, until you have traveled quite far down the design road. Bring them in early, make them a part of your design team and start getting your cost questions answered early on. It is obvious why this approach is quickly becoming popular for tenants looking to relocate their facilities. If you want a smooth, predicible project with few surprises, build up your team early in the process with a seasoned architect and a contractor experienced in preconstruction services, and you won't regret it.

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