



By Ray Carroll, MAI, SRA, CFM

## Estimating Costs for Actual Cash Value

This month we'll talk about construction costs used to develop actual cash value (ACV) appraisals that estimate the NFIP "market value." My objective is to assist local officials who evaluate ACV appraisals so they will have reasonable expectations and know when reported costs are reliable.

### ACV Defined

FEMA P-758, the Substantial Improvement/Substantial Damage Desk Reference, identifies ACV as a method to estimate market value. Section 4.5.3 describes ACV as "The cost to replace a building on the same parcel with a new building of like-kind and quality, minus depreciation due to age, use, and neglect." Although the Desk Reference isn't clear, we're only talking about direct costs. Things like architect fees, impact fees, permit fees, financing costs, carrying costs, and developer profit are not included.

A key concept of ACV is that the starting point is the cost to build a new building just like the existing building. Appraisers call that cost the "reproduction cost" (sometimes called the "replication cost"). In other words, "what would be the direct cost to build a new building that is a replica of the existing building?" The operative qualifier is "like-kind and quality." This reproduction cost is the appraiser's starting point, before adjusting for depreciation.

It's important to understand that reproduction cost is **not** the same as "replacement cost" used by real estate professionals. For them, replacement cost is the cost to build a new substitute building using modern materials, design, and layout, and in full compliance with current building codes and standards (including floodplain requirements).

### Ways to Estimate Reproduction Cost

There are several ways an appraiser might estimate the reproduction construction cost, including:

- Using a published cost service
- Builder cost estimates, employing a contractor to give a cost estimate
- Collecting and analyzing a variety of construction cost contracts
- Extracting costs from sales of speculative new construction

**Published cost services:** There are many cost estimating systems out there used by contractors, code officials, appraisers, insurance agents, and adjusters, underwriters, and others. Each system is tailored to the needs of a specific industry. Appraisers typically use square foot cost estimating services published by CoreLogic, Marshall & Swift (now a subsidiary of CoreLogic), Craftsman Book Company, and RS Means (Gordian).

Every reputable cost system offers users information about how costs are compiled, how frequently costs are updated, and how closely the system reflects local costs. This is important information that appraisers should include in their reports so that floodplain administrators can draw conclusions about the reliability of the cost system output.

ACV appraisals are prepared for a mix of residential and commercial building types, mostly residential. The kinds of buildings can range in age from 10 to 100 years old, so the cost system should be able to replicate architectural styles, construction types, and construction materials no longer in use. Construction costs change with time, and costs are affected by economic trends, local economics, and site conditions. That means the cost system must account for the characteristics of the building, the characteristics of the construction site, and the

economy of the community. The system must have a historical database able to support cost estimates applicable to effective dates many years in the past. This argues for a sophisticated system capable of detailed inputs and outputs.

Special construction features, like in-ground piling foundations, may be beyond the cost system capabilities and thus require documentation, discussion, and appraiser treatment.

The most challenging aspect of using a cost system is deciding the quality setting. Every cost system designed for appraisers uses descriptive terms to define quality levels, but descriptive terms are meaningless unless correlated with example buildings. For instance, Marshall & Swift's Residential Cost Handbook publishes reference images for each building type, depicting examples for six quality levels.

**Builder cost estimates:** Usually, there isn't enough time and it's too expensive for an appraiser to hire a contractor or professional cost estimator to develop an in-kind replacement cost estimate for a specific building. The exceptions to this are one-off buildings (typically non-residential).

When this method is used, it is crucial that the contractor or cost estimator understand that the cost estimate needed is what it would cost to build a replica of the existing building or structure. That will be a new concept for most contractors, and it is a weakness of this method.

**Analysis of construction contracts:** In the normal course of business, appraisers are asked to estimate the value of proposed new construction. This is usually in connection with a whole-property market value estimate for mortgage loan underwriting. Typically, the appraiser's lender-client sends construction plans, specifications, and builder cost contracts, which the appraiser analyzes before making his own cost estimate. Doing these types of analyses give appraisers a way to track construction costs, which can be used to help calibrate a published cost system.

Occasionally an appraiser can obtain well documented cost information directly from contractors or architects, but only if the appraiser has a valid reason to know. When such information is used in an ACV appraisal to estimate the NFIP "market value," the appraiser must be careful that the new construction example is, in most respects, like the building under analysis.

**Cost extraction:** When a community has an active market in the sale of speculative new construction (almost always residential), building costs can be extracted from sale prices by deducting the contribution values of furniture packages, land, developer profit, swimming pools and pool enclosures, other site improvements, and landscaping. The residual cost obtained in this way is indicative of the direct cost to construct the building. Dividing the residual cost by the building living area square footage yields the cost per square foot to construct new buildings of similar quality in compliance with current codes and standards.

Speculative sales data is often available through a local multiple listing service (MLS). By analyzing exterior and interior MLS images, quality can be discerned, and costs calibrated to quality-descriptive terminology. With enough information like this, cost patterns emerge.

Making an on-going cost study like this is challenging, but the results are invaluable, especially when one is appraising at quality levels beyond a published cost system's capabilities. Sometimes, this is the only method available to appraisers working in high-quality coastal communities.

### **Evaluating ACV Reproduction (Replication) Costs**

Estimating the like-kind reproduction cost is the first step in estimating ACV. The next step is subtraction of depreciation due to age, use (wear and tear), and neglect. I covered this in the May 2021 Insider, Floodplain Manager's Notebook, Market Value Supplement.

Here are some things a floodplain administrator should consider when evaluating the reliability of an ACV reproduction cost estimate:

1. The reproduction cost should be developed using a reputable published cost service.
2. The appraisal report should name the cost system used, identify the cost system version, and include a discussion of how the cost system works.
3. The appraisal report should include a detailed cost system report (always more than one page), which shows the system settings and the building characteristics inputs.
4. When a reproduction cost estimate is retrospective, the cost system dataset must cover the applicable time period. This is crucial when estimating a reproduction cost before damage occurred, which communities need to make substantial damage determinations.
5. The cost system inputs should match the characteristics of the building under study.
6. With few exceptions, the cost system results should not require unusual user adjustment. Any unusual adjustments should be described by the appraiser.
7. Indirect costs, like architect fees, should be excluded or deducted.
8. In most cases, the per square foot reproduction cost of the building under study is expected to be lower than the cost of a new, code-compliant building of the same type and quality.

### **My Favorite Cost System**

In 45 years of appraisal practice, I've used at least four Marshall/CoreLogic cost system products. My favorite is CoreLogic Commercial Express. Despite the name, it's also a powerful tool for developing residential costs. Commercial Express was designed for the insurance and appraisal industries. For insurable value cost estimates, it is necessary to estimate the cost of the existing building, just like what is required for an NFIP actual cash value estimate. CoreLogic Commercial Express features include:

- An address function that ties cost estimates to the local zip code.
- A cost database that spans many years, enough to handle effective dates "prior to start of work" or "prior to damage."
- A wide choice of building design inputs, including the number of stories, the choice of eight quality levels, an exterior wall perimeter input, building design/occupancy types, exterior wall height, ISO construction type, substructure areas, inclusion/exclusion of architect fees, site-related cost modifiers, and when needed, special user-adjustments.
- The ability to handle mixed-use buildings or buildings of more than one construction type by allowing creation of multiple building sections, each specified to the design/occupancy or construction type.
- Detailed input fields to specify building mechanical components, heating/cooling systems, exterior wall openings and finishes, roof construction and finish materials, floor finishes, ceiling finishes, interior wall construction/finishes, and the length of partition walls.
- Optional output report styles, including a detailed multi-page format.

There is a learning curve associated with a system like this, but Commercial Express is logical, relatively easy to use, and the call-in tech support is very good. This is a subscription-based system designed to support a single user or multiple users in a networked environment.

Not every appraiser or floodplain administrator needs a tool like CoreLogic Commercial Express. But whatever cost system is used, it must be appropriate to the building under evaluation, calibrated to local costs, and properly applied.

*This article originally appeared in The Insider, November, 2021. Reprinted with permission from the Association of State Floodplain Managers.*