



CoreLogic®

Replacement Cost, Reconstruction Cost and Insurable Value:

Which one?

Appraisal Institute
July 27, 2016

Meet the Presenters:



Ed Martinez



Jim Siebers

Agenda

- History of the Cost Approach
- Cost Approach Overview
- Why Consider the Cost Approach?
- Development of the Cost Approach
- Identify the definitions and differences between:
 - Replacement Cost
 - Reproduction Cost
 - Insurable Value
- Which one to use?
- Cost Approach Summary

History of The Cost Approach

Theodore Limpberg, circa 1930



Cost Approach Overview

Benefits of the Cost Approach In Valuation

The need for appraisal standards became evident during “The Great Depression”. American Institute of Real Estate Appraisers (AIREA) and the Society of Real Estate Appraisers (Society) were created and established guidelines and standards.

- **Market** – this approach bases its opinion of value on what similar properties in the vicinity have sold for recently (also known as the sales comparison approach).
- **Cost** - designed to give accurate present-day replacement or reproduction costs.
- **Income** - market must be studied to determine fair yield rates, fair rents, expenses and remaining life expectancy; as well as, the anticipation of future profits. This approach is a subsidiary of the Market Approach.

Cost Approach Overview

The appraisal process consists of three approaches to value:

1. Direct Sales Comparisons (Market)
2. The Income Approach (Capitalization)
3. The Cost Approach.

The reconciliation of these three approaches leads to the value conclusions for the subject property

Cost Approach Overview

Theory of the Cost Approach

The cost approach is based upon comparison; and is the cost of a new property or a substitute property with the same utility as compared to the subject property.



Definition of the Cost Approach:

Current Cost to replace
+ Profit
- Depreciation
+ Land Value

Estimated Replacement Cost

A set of procedures through which a value indication is derived for the fee simple interest in a property by estimating the current cost to construct a reproduction of, or replacements for, the existing structure plus any profit or incentive; deducting depreciation from the total cost; and adding the estimated land value. Other adjustments may then be made to the indicated fee simple value of the subject property to reflect the value of the property interest being appraised.

Cost Approach Overview

Cost Approach

The cost approach is the easiest to understand. The appraiser uses information on local building costs, labor rates and other factors to determine how much it would cost to construct a property similar to the one being appraised. This value often sets the upper limit on what a property would sell for. Why would you pay more for an existing property if you could spend less and build a brand new home instead? While there may be mitigating factors, such as location and amenities, these are usually not reflected in the cost approach.

Cost Approach Overview

Basic Concepts and Economic Principles of the Cost Approach

Definition of the Cost Approach: A set of procedures through which a value indication is derived for the fee simple interest in a property by estimating the current cost to construct a reproduction of (or replacement for) the existing structure, including an entrepreneurial incentive, deducting depreciation from the total cost, and adding the estimated land value. Adjustments may then be made to the indicated fee simple value of the subject property to reflect the property interest being appraised.

Why Consider the Cost Approach?

1. The cost approach is a recognized approach to value, especially suitable for:
 - New, near-new, and proposed construction
 - Special-purpose properties
 - Situations where there is little or no market activity
 - Marshall & Swift is recognized as an authority, with over 80 years of valuation experience
 - Cost data is based on thousands of appraisals, and statistical analysis of cost data of new buildings.

Why Consider the Cost Approach?

2. Quote from Marshall & Swift:

- *The cost approach has always served **a crucial quality control function**.*
- *It has been used to verify market-based estimates and to help identify a potential runaway or rapidly declining market.*
- *If the cost approach comes in well below market prices, it may be a signal that the market is rising beyond sustainable levels.*
- *If the cost approach comes in significantly above the market, it may signal that prices have dropped below reasonable levels.*
- *The cost approach **provides a much needed reality check** in both strong and weak markets, establishing a trustworthy benchmark of value.”*

Why Consider the Cost Approach?

- Allows the appraiser to analyze current market conditions in relation to the cost of new construction
- Serves to support the appraisers conclusions related to market value trends, and whether they are stable, declining or increasing

Development of the Cost Approach

Included in the Marshall & Swift Square Foot Method costs:

1. Average architects' and engineers' fees. Plans, plan check, building permits, and survey
2. Interest on the building funds during period of construction.
3. All material and labor costs include all appropriate local, state and federal taxes.
4. Normal site preparation including finish grading and excavation for foundation and backfill for the structure only.
5. Utilities from structure to lot line figured for typical setback.
6. Contractors' overhead and profit including job supervision, workmen's compensation, fire and liability insurance, unemployment insurance, equipment, temporary facilities, security.

Development of the Cost Approach

Not included in the Marshall & Swift Square Foot Method costs:

1. Costs of buying or assembling land.
2. Pilings or hillside foundations, which are priced separately and are considered improvements to the land.
3. Costs of land planning or preliminary concept and layout for large developments, entrepreneurial incentives or developers' overhead and profit, interest or taxes on the land, feasibility studies, environmental impact reports, hazardous material testing, appraisal or consulting fees, etc..
4. Discounts or bonuses paid for financing, funds for operating start up, project bond issues, permanent financing, developmental overhead, or fixture and equipment purchases, etc.
5. Yard improvements including septic systems, walls and fencing, landscaping and yard lighting, pools or other recreational facilities, etc., which can be priced separately.

Development of the Cost Approach

Not included in the Marshall & Swift Square Foot Method costs (continued):

6. Off-site costs including sidewalks, curbs and gutters, utilities, park fees, jurisdictional hookup, tapin, impact or entitlement fees or assessments, etc.
- 7. Marketing costs, advertising expenses, leasing or brokers' commissions, temporary operation of property owners' associations, fill-up or membership sales costs and fees.**
8. General contingency reserve for labor strikes, anticipated labor and material increases, etc.

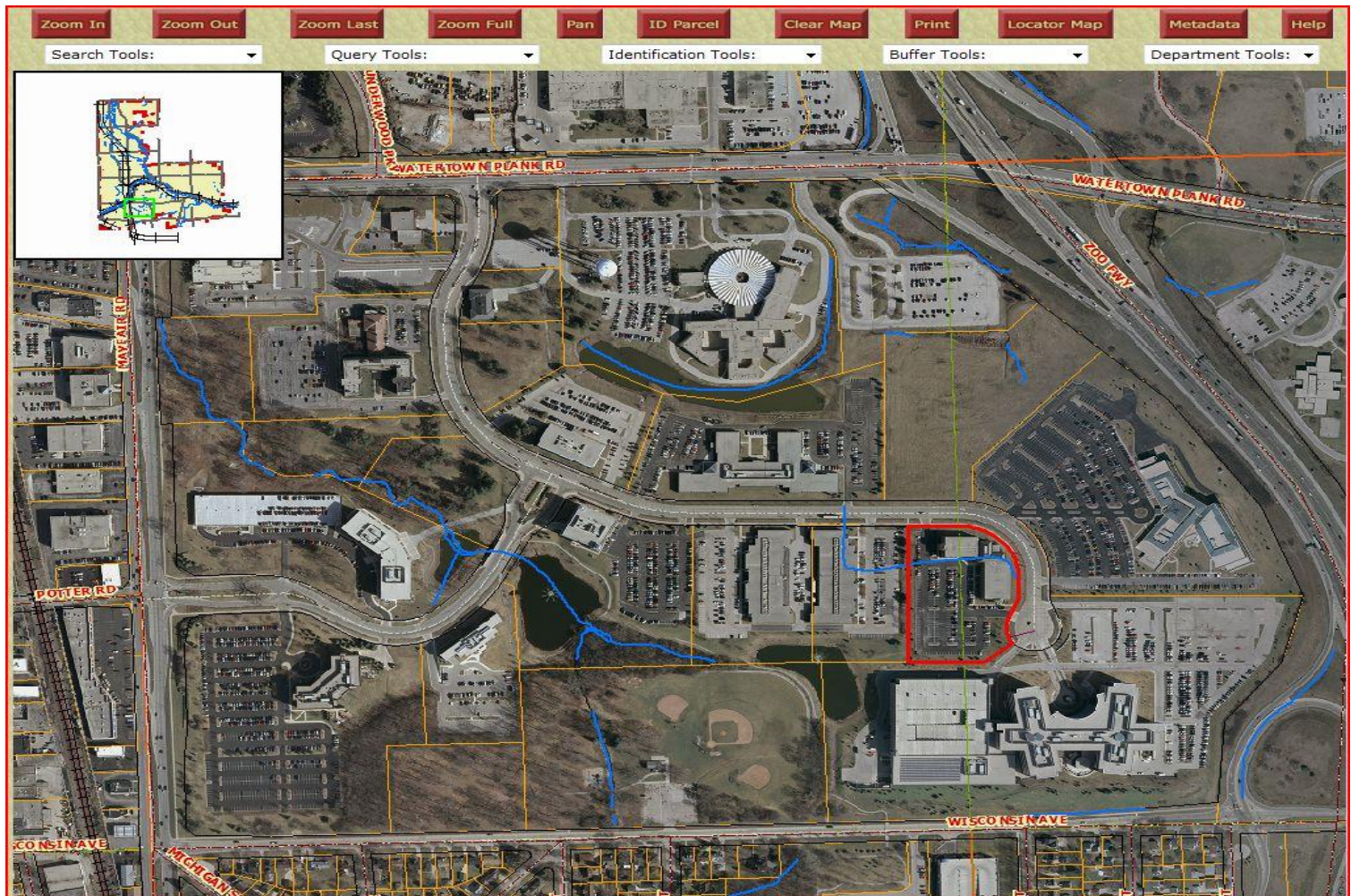
The appraiser must consider all relevant costs which may not be included in Marshall & Swift costs, and be sure that they are included

Assignment - 10001 Innovation Drive | Milwaukee, WI

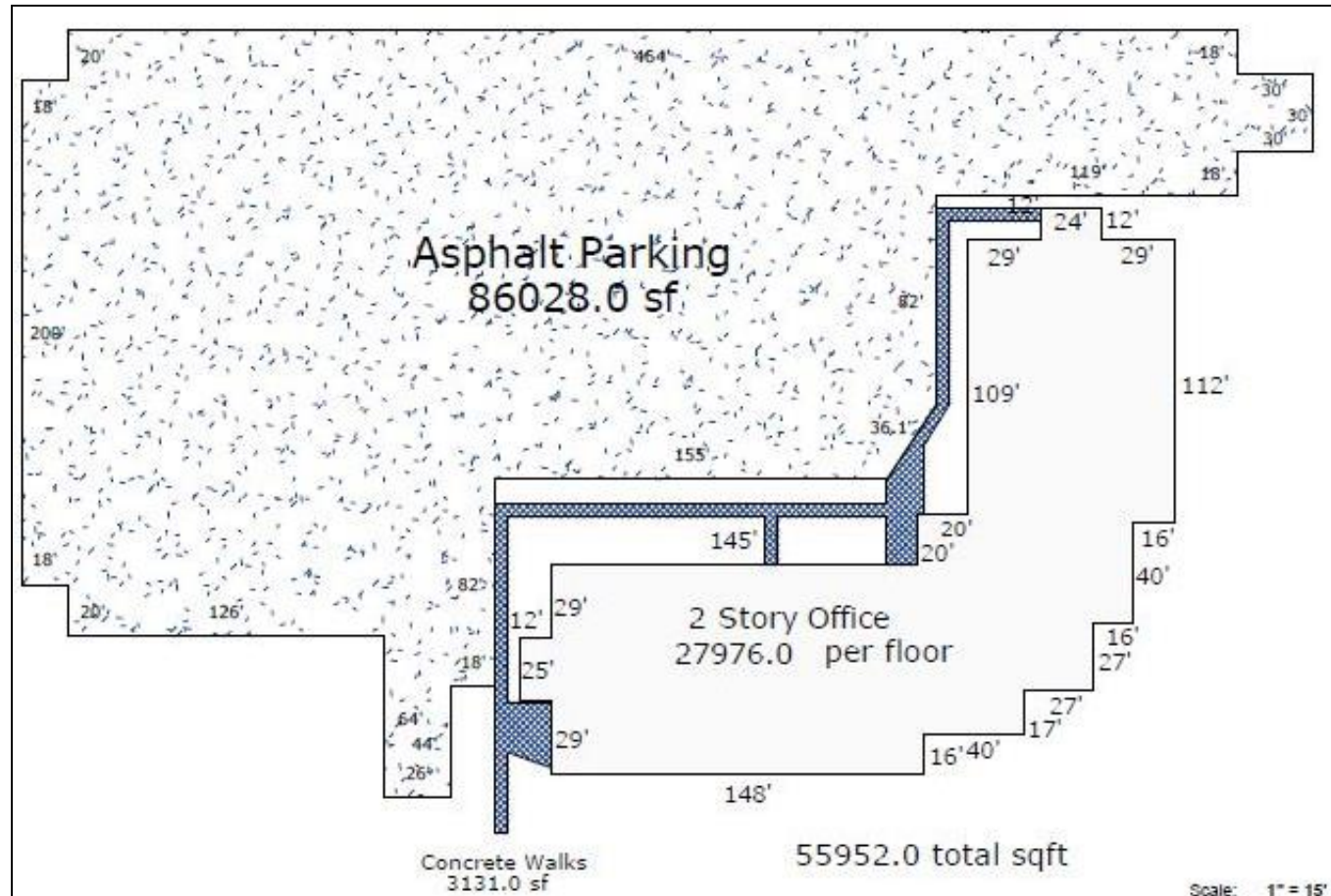
55,952 sq. ft. 2-Sty Office Masonry Construction



Geographic Information Systems (GIS)



Aerial Sketch



About Real Estate Gov't –Con't

What's the issue?



■ Replacement Cost New & Insurable Value

- Marshall Valuation Service - $\$109.26 \times 55,952 \text{ sq. ft.} = \$6,113,315$
- Swift Estimator (on-line) - $\$125.41 \times 55,952 \text{ sq. ft.} = \$7,016,939$
- Commercial Express - $\$139.00 \times 55,952 \text{ sq. ft.} = \$7,786,373$

CALCULATOR METHOD

OFFICE BUILDINGS (344)

C	Excellent	Steel frame, masonry and glass, stone ornamentation, top quality	Plaster, paneling, carpet and terrazzo, suspended ceilings	*Best fluorescent ceiling panels, tiled restrooms, good fixtures	Warm and cool air (zoned)	2,372.06	18.36	220.37
	Good	Steel frame or bearing walls, brick/conc. panels, some ornamentation	Plaster or drywall, good partitions, acoustic tile, carpet and vinyl	*Good fluorescent lighting, good restrooms and fixtures	Package A.C.	1,657.98	12.84	154.03
	Average	Steel or concrete frame, or bearing walls, some trim	Paint, drywall partitions, acoustic tile, vinyl composition	*Fluorescent lighting, adequate outlets and plumbing	Forced air	1,176.07	9.11	109.26
	Low cost	Masonry bearing walls, light rafters, very plain	Paint, few low-cost partitions, acoustic tile, asphalt tile	Minimum office lighting and plumbing	Wall furnace	793.20	6.14	73.69

About Real Estate Gov't –Con't

1979 2-Sty Wood Framed SFR – 1,463 sq. ft. Los Angeles, CA 90278



About Real Estate Gov't –Con't

Is this replacement, reproduction or insurable value ?

1523 Ford Ave,
Redondo Beach, CA 90278

3 beds · 3 baths · 1,463 sqft [Edit](#)

Edit home facts for a more accurate Zestimate.

Get Your Home Report

See Zestimate updates, plus the latest sales and listings in your area.

[Sign up](#)

This 1463 square foot single family home has 3 bedrooms and 3.0 bathrooms. It is located at 1523 Ford Ave Redondo Beach, California.

FACTS

- Lot: 2,505 sqft
- Single Family
- Built in 1979
- All time views: 158
- Heating: Other
- Last sold: Sep 1991 for \$275,000

MSB / RCT Express

Valuation Totals Summary

Cost Data As Of 02/2016

Coverage A

Reconstruction Cost w/o Debris Removal	\$351,049
Debris Removal	\$14,306
Reconstruction Cost with Debris Removal	\$365,355
Price Per Sq. Ft.	\$249.00

● OFF MARKET
Zestimate®: \$931,103
[Create private estimate](#)
Rent Zestimate®: \$3,949/mo

EST. REFI PAYMENT
\$3,433/mo
[See current rates](#)

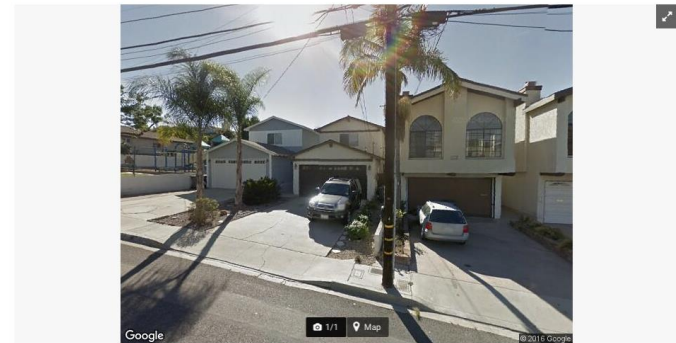
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Off Market
1523 Ford Ave
Redondo Beach, CA 90278

Get your Credit Score for 90
Est. **\$952,931**
Ref Rates

3 beds · 3 baths · 1,463 sq ft



[Get Up To 4 Free Moving Quotes](#)

[Property Details](#) [Schools & Neighborhood](#) [Property History](#)

ONE STORY

Square Foot Costs
Average Quality

RESIDENCE

STUD FRAMED

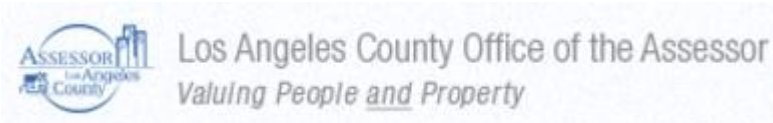
Total Area	Plywood or Hardboard	Metal or Vinyl Siding	Stucco	Wood Siding	Wood Shingles	Synth. Plaster (EIFS)
600	100.53	100.69	102.27	101.95	102.75	105.48
800	95.26	95.41	96.87	96.58	97.30	99.82
1000	91.37	91.51	92.87	92.60	93.28	95.64
1200	88.31	88.44	89.73	89.47	90.12	92.35
1300	86.99	87.12	88.38	88.13	88.76	90.95
1400	85.80	85.92	87.16	86.91	87.53	89.66
1500	84.70	84.82	86.03	85.79	86.39	88.49

About Real Estate Gov't –Con't

What does 1,463 sq. ft. X Cost mean? What's Insurable value?

- Zillow.com: $\$930,981 = \$636/\text{sf.}$
- Realtor.com: $\$952,931 = \$651/\text{sf.}$
- RCT: $\$365,355 = \$249/\text{sf.}$
- Swift Estimator.com: $\$162,393 = \$111/\text{sf.}$
- Residential Cost Handbook: $\$116,000 = \$79.28/\text{sf}$

About Real Estate Gov't –Con't



Property Information	
Assessor's ID No:	4162-035-042
Address:	1523 FORD AVE REDONDO BEACH CA 90278
Property Type:	Single Family Residential
Region / Cluster:	14 / 14155
Tax Rate Area (TRA):	08060
	<ul style="list-style-type: none"> • View Assessor Map • View Index map

Recent Sales Information	
Latest Sale Date:	
Indicated Sale Price:	
	<input type="button" value="Search for Recent Sales"/>

2015 Roll Values	
Recording Date:	10/28/2014
Land:	\$449,184
Improvements:	\$125,348
Personal Property:	\$0
Fixtures:	\$0
Homeowners' Exemption:	\$0
Real Estate Exemption:	\$0
Personal Property Exemption:	\$0
Fixture Exemptions:	\$0

Land & Improvements: = \$574,532

Zillow: \$930,981 = \$356,449

Realtor.com: \$952,931 = \$378,399

RCT: \$365,355 + \$574,532 = \$939,887

SERE: \$162,393 + \$574,532 = \$736,925

RCH: \$116,000 + \$574,532 = \$690,532

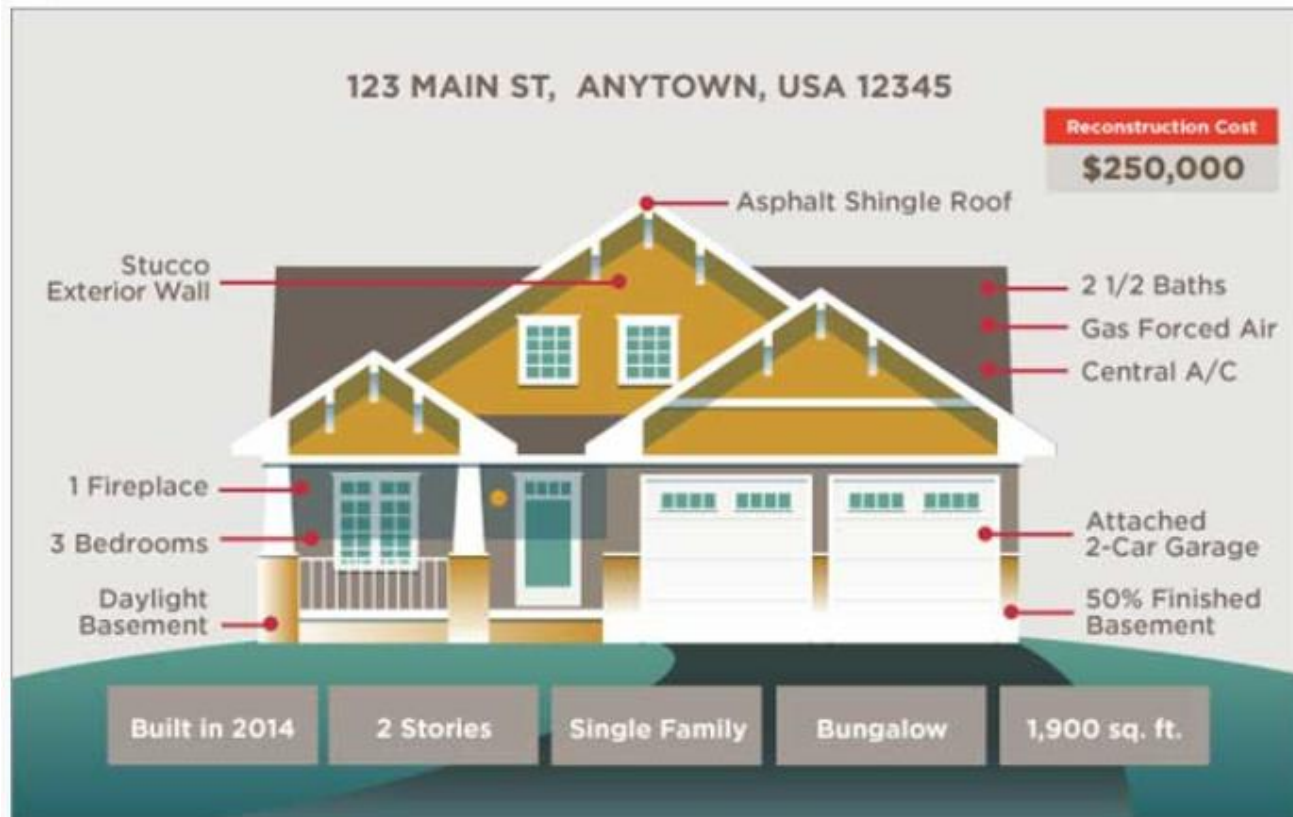
Why Reconstruction Usually Costs More Than New Construction

- **Economy of Scale**
- **"Top-Down" vs. "Bottom-Up"**
- **Demolition and Debris Removal**
- **Use of Labor**
- **Access to the Worksite**
- **Special Features & Unusual Materials**
- **Building Code Changes**
- **Construction Costs Rise After Natural Disasters**
- **Undamaged Parts Of The Home and the Contents Must Be Protected**

Determining Reconstruction Costs

Home features that have the greatest impact on reconstruction cost

Figure 1: Elements of Reconstruction Cost



Source: CoreLogic

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Reconstruction vs. New Construction

- Reconstruction Cost value basis
- Property valuations done for insurance purposes
- Reconstruction Cost captures all of the additive costs



WIKIPEDIA
The Free Encyclopedia

Article [Talk](#)

Replacement value

From Wikipedia, the free encyclopedia

Replacement Cost

The cost of erecting a building to replace or serve the functions of a previous structure.

Replacement would be something that is not atypical for the market, and is usually more cost efficient. It can be mass produced, in most instances.

Reproduction Cost

The cost of exact duplication of a property as of a certain date. Reproduction differs from replacement in that replacement requires the same functional utility for a property, whereas reproduction is an exact duplication.

Reproduction generally would require special skills/tools. Imagine a modern fireplace mantel vs. one that was hand carved and intricately done a century ago. It would be extremely cost prohibitive to reproduce that, vs. simply buying one from a home improvement retailer

Replacement or Reproduction

The key difference is the type of improvement being considered.

Are we looking at a new building with modern materials, or an exact replica?

Protecting Historic Structures

exactly equivalent structure



Reproduction Cost New versus Replacement Cost New (RCN). Either value is an important ingredient in appraisals for insurance purposes, and they are an initial point of reference in appraisals for other purposes. The differential in dollars widens with age, and one can be higher or lower than the other.

- Insurable value is the “The cost of total replacement of destructible improvements to a property; it is based on replacement cost rather than market value”.

An Independent Opinion

James R. Favor & Company, LLC

INSURANCE BROKERS AND RISK MANAGEMENT CONSULTANTS

YOUR MARSHALL & SWIFT BUILDING VALUATION REPLACEMENT COST INCLUDING BUILDING CODE COSTS

Insurable Replacement Cost

“Insurable Replacement Value” represents the replacement or reproduction cost of the insurable improvements. It is not a “Value”, but rather a Cost Estimate that makes no allowance for land value, depreciation, indirect costs, or developer’s profits. As such, it is totally unrelated to Cash Value or Market Value. “Insurable Replacement Value” is normally defined as follows:

- 1) The value of the property that is recognized as insured under the provisions of the applicable insurance policy.
- 2) The value used by insurance companies as the basis for insurance. The replacement or reproduction cost of the property with materials of like kind and quality intended for the same use less deterioration and non-insurable items. This Value is not market or cash value but rather it is entirely a cost concept.

James R. Favor & Company, LLC

INSURANCE BROKERS AND RISK MANAGEMENT CONSULTANTS

ACTUAL FRATERNITY PAID CLAIM – BLANKET COVERAGE EXAMPLE

Insured Values on the Date of Loss

Building	\$ 606,000
Building Codes	\$ Included
Contents	\$ 40,000
Rental Income	\$ 36,000
Extra Expense	\$ 25,000

Total Insured Values: \$ 707,000

Actual Claim Payment

Building	\$ 1,112,388
Building Codes	\$ 557,388
Contents	\$ 76,519
Rental Income	\$ 29,114
Extra Expense	\$ 124,661

Total Claim Paid: \$ 1,900,000

More details of this example and other helpful information on “Establishing your Insurable Values” can be found on our website www.jrfco.com

Value across the Property Lifecycle



MARKET VALUE

Realtor



APPRAISED VALUE

Appraiser



INSURED VALUE

Underwriter



ASSESSED VALUE

Assessor

Market Value

Subjective, Variable, and Easily Influenced



339K



\$351K



\$425K



\$345K

As Defined by Fannie Mae

- Most probable price that a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus estate.
- Subjective
- Variable: Easily Influenced

Data Elements

- Highest Estimated Price
- Recently Sold/ Listed Homes
- Property Details
- Physical Age (Year Built)
- Property Condition
- Unique Features
- Gross Living Area
- Transaction Date
- Economic Conditions
- Property Photos

Appraised Value

Subjective, Inconsistent, and Not Intuitive



\$339K



\$351K



\$425K



\$345K

As defined by USPAP

- Appraisal is the act or process of developing an opinion of value
- Process is a systematic procedure using multiple approaches (Comparable Sales, Cost and Income)
- Subjective
- Inconsistent
- Methodologically not understood / lack of certification

Data Elements

- Recently Sold/Listed Homes
- Property Details
- Physical Age (Year Built)
- Effective Age
- Property Condition
- Unique Features
- Livable Space
- Depreciation
- Income/Expenses
- Capitalization Rates
- Market Area
- Property Photos
- Local Sales Prices
- Local Construction Cost

Insurable Value

Systematic and Objective



\$339K



\$351K



\$425K



\$345K

Standard for Insurance Total Component Estimating

- Cost to construct exact duplicate or replica of the building, using like kind and quality materials and including site-specific and process-related costs that are experienced when rebuilding after a loss.
- Reconstruction
- Systematic
- Objective

Data Elements

- Property Details
- Physical Age (Year Built)
- Kitchen/Bath Condition
- Unique Features
- Gross Living Area
- Property Photos
- Attached Structures
- Local Construction Cost

Assessed Value

Inconsistent Process, Timeliness, and Assessment



\$339K



\$351K



\$425K



\$345K

As defined by IAAO

- Value (monetary amount) set on real estate by a government as a basis for levying taxes
- Represents “Home Taxable” Value

CAMA Based

- Process is a systematic procedure using multiple approaches (Direct Comparison of Sales, Cost and Income)
- Process inconsistency across counties, timeliness of data, assessment

Data Elements

- Property Characteristics
- Physical Age (Year Built)
- Property Condition
- Unique Features
- Gross Living Area
- Property Photos
- Ownership Information
- Parcel Boundaries
- Property Exemptions
- Local Sales Prices
- Local Construction Cost

Valuation Data Elements

	Market	Appraised	Insurable	Assessed
Highest Estimated Price (buyer would pay / seller would accept in open and competitive market)	✓			
Recently Sold / Listed Homes - Comparable Property	✓	✓		
Property Details: Location, Lot Size, Style, # BR/Bath, # Rooms, Construction Type, Site Area	✓	✓	✓	✓
Physical Age (Year Built)	✓	✓	✓	✓
Effective Age		✓		
Depreciation		✓		
Property Details: Condition, Quality (Whole House)	✓	✓	✓	
Property Details: Condition, Quality (Kitchen / Bath)				✓
Property Details: Unique Features	✓	✓	✓	✓
Livable Space/SF		✓		
GLA / Total Space/SF	✓		✓	✓
Transaction Date	✓			
Income/Expenses/Cap Rates		✓		
Current Economic Conditions (Housing Supply/Demand)	✓			
Market Area (Defined Neighborhood)		✓		
Exterior And Interior Property Photos	✓	✓	✓	✓
Ownership Information, Parcel Boundaries, Property Characteristics, Property Exemptions			✓	
Local Sales Prices Trends And Rents		✓	✓	
Local Construction Cost		✓	✓	✓

- The Cost Approach is most useful in determining insurable value, essentially the cost to construct a new structure or building.
- The choice of valuation method can change depending upon the circumstances, even if the property being valued doesn't change much.

Cost Approach Summary

Benefits of the Cost Approach In Valuation

The cost approach is the most reliable valuation method for a variety of assignments.

- Projecting cost for new or proposed construction
- When land value is supported
- When improvements represent highest and best use of land
- For special purpose properties, not frequently exchanged on the market.
- Verify the validity of market value
- Adjust estimates to account for unique features of the subject
- Determine depreciation values for physical deterioration or functional and/or external obsolescence

Cost Approach Summary

Benefits of the Cost Approach In Valuation

The cost approach is a crucial quality control function.

Historically used to verify market-based estimates to help identify a potential runaway or rapidly declining market. Reality-check:

- If the cost approach is well below market prices, it may signal that the market is rising beyond sustainable levels
- If the cost approach is significantly above the market, it may signal that prices have dropped below reasonable levels.
- Economies across the globe have witnessed time and time again that markets without reality checks are capable of generating obscene transaction values, resulting in dangerous bubble scenarios.

Cost Approach Summary

How is the Marshall & Swift Cost Developed?

A number of data collection methods are used to support the comprehensive database of MVS:

- **The Component or unit method** – Individual labor rates and materials are collected to monitor the changes and installed costs of building components.
- **The Example or model method** – Allocates and builds assembly costs in a systemized approach for analysis against the total building costs.
- **The Sampling method** – Complete building costs, from surveys, using the Dodge construction reports are refined to the Marshall & Swift national average base and then to a current publication date.

Cost Approach Summary

Basic Concepts and Economic Principles of the Cost Approach

Other Useful Definitions and Economic Principles

- **Substitution:** The property with the lowest price will attract the greatest demand.
- **Supply and Demand:** The price of a property, not necessarily proportionately, will tend to vary directly with the demand, and inversely with the supply for that property.
- **Balance:** The value of property is created and sustained when there is a state of equilibrium.
- **Contribution:** The value of a component of a property is measured in terms of the value it contributes to the whole.
- **Externalities:** The value of a property can be affected by something outside of the property.
- **Highest and Best Use:** The reasonably probable and legal use of a property, which is physically possible, appropriately supported, financially feasible, and results in the highest value.

Cost Approach Summary

Estimate the Basic Cost Components

The components of the cost approach are:

1. Estimate the value of the land
2. Estimate the cost of the improvements
 - A. Select the appropriate cost basis
 - i. Reproduction Cost
 - ii. Replacement Cost
 - iii. Insurable Value
 - B. Select the appropriate type of cost data
 - i. Comparative Unit
 - ii. Unit-In-Place
 - iii. Quantity Survey
 - C. Select the source of data
 - i. Cost Services
 - ii. Builders/contractors
 - iii. Appraiser's files
 - D. Apply the selected technique including all
 - i. Direct costs
 - ii. Indirect costs
 - iii. Appropriate entrepreneurial profit and incentive (as defined previously)

Cost Approach Summary

Basics of the Cost Approach (Continued)

3. Estimate the **depreciation** that has occurred on the property
4. Subtract the amount of depreciation from the estimated cost to arrive at the depreciated value of the improvements
5. Add the depreciated contributory value of site improvements. The contributory value of site improvements is estimated based upon comparison with similar improvements in the area
6. Add land value - The land value is then added to the depreciated value of the improvements and site improvements (Discussion: Excess and/or Surplus land.)
7. The total is the market value of the subject property by the cost approach.
8. The indicated market value must be adjusted if any interest other than fee simple is being appraised

Cost Approach Summary

The Use and Reliability of the Cost Approach

The use and reliability of the cost approach will depend upon the type of property appraised and the data available.

1. The cost approach is most reliable in the following assignments:

- New or proposed construction
- Improvements represent highest and best use
- Land value well supported
- Special-purpose properties
- Properties with lack of sales
- Properties not designed for or used for income generation

2. The reliability of this approach is limited in the following situations:

- Older properties with a significant amount of depreciation
- Properties that do not represent the highest and best use
- Properties with a partial interest (leased fee)
- Active market where buyers base purchase on sales of similar properties or income potential

Cost Approach Summary

The Uniform Standards of Professional Appraisal Practice (USPAP) Requirements

USPAP SR 6.5(a) requires all appraisers to adhere to the following guidelines

- A. While determining the appropriate scope of work, decide whether the cost approach is applicable and necessary to produce a credible opinion of value.
- B. The appraiser must be competent to apply this method for the type of property being appraised.
- C. Under SR 1-4b, when the cost approach is indicated in the scope of work, an appraiser must collect, verify, and analyze all information to:
 1. Develop an opinion of site value by an appropriate method or technique;
 2. Analyze such comparable cost data as are available to estimate the cost new of the improvements (if any); and
 3. Analyze such comparable cost data as are available to estimate the difference between the cost new and the present worth of the improvements to estimate depreciationThis also applies to SR 6.5(a) for Mass Appraisers

D. In the reports describe the information analyzed, the appraisal procedures followed, and the reasoning that supports the analyses, opinions, and conclusions.

Cost Approach Summary

Estimate of the Cost of Improvements

In order to estimate the cost of the improvements the appraiser must determine the appropriate cost basis for the assignment.

- 1.Reproduction is the cost to construct an exact replica of the subject in all salient characteristics.
- 2.Replacement is the cost to replace a structure with a substitute of like kind or equal utility using current standards of materials and design.

Cost Approach Summary

Estimation of the Cost of Improvements

In order to estimate the cost of the improvements the appraiser must select the appropriate cost technique for the assignment.

1. Comparative-unit (Calculator Method) is based upon the cost in terms of dollars per unit (per square foot, per cubic foot, etc.).

- a. Direct and indirect costs are included.
- b. Entrepreneurial profit when appropriate.
- c. Costs can be derived from market extraction or cost services.
- d. It is easy to apply and understand, practical and widely used.
- e. This technique is referred to as the Calculator Method later in this course.
- f. An alternative to the simpler Square Foot Method is a more detailed assembly approach referred to later in this course as the Segregated Method.

Cost Approach Summary

Estimation of the Cost of Improvements (continued)

2. Unit-in-place is based upon the cost of various building components including the cost of materials and labor.

- a. The cost of each component is based upon the unit of measurement used in a particular trade. For example:
 - Floor area based on square feet
 - Wall area based on linear feet
 - Air-conditioning in tons
- b. Direct and some indirect costs are included. (See What the Costs Contain on previous slides)
- c. Entrepreneurial profit is usually calculated as a percentage of direct and indirect costs and is included in market extraction method (net operating income divided by overall capitalization rate equals market value), but not in construction cost data from a cost service.
- d. Depreciation can be calculated separately for each component.
- e. More difficult and time-consuming than the comparative-unit method but more accurate.

Cost Approach Summary

Estimation of the Cost of Improvements (continued)

3. Quantity survey is based upon the quantity and quality of all materials and labor used in construction.

- a. Unit costs are derived then contingencies, overhead, and profit are added to arrive at the total cost.
- b. The cost can be calculated by one contractor or several subcontractors and then totaled together.
- c. Does not usually include indirect cost or entrepreneurial incentive.
- d. This method is time-consuming and costly.
- e. Most comprehensive and accurate method.
- f. Most often used by contractors and estimators rather than appraisers.

Cost Approach Summary

Estimation of the Cost of Improvements

It is important to recognize that there are three types of cost data that appraisers may select to use:

1) **Calculator Method (Comparative Unit) –**

- Cost out an entire building with one price per square foot. This format is the next step up from the Rule of Thumb cost tables.
- Use this method to look at an entire building by its gross square foot dimensions.

Review Notes

The calculator method is based upon the cost in terms of dollars per unit (per square feet, per cubic foot, etc.).

Cost Approach Summary

Estimation of the Cost of Improvements (Continued)

2) Assembly Costs (Segregated Method) –

The Assembly (also called the Segregated Method) approach allows you to cost the building in pieces from the assembly of individual components.

This method is a breakdown of the Calculator cost method.

Use the Segregated approach when you want to see how much the Electrical cost of an office building is based on its total gross square footage. These are the installed Electrical costs with all necessary components such as service and distribution wiring and outlets, lighting and controls, and all special systems such as alarms, standby power, and sound system cabling, commensurate with quality.

Cost Approach Summary

Estimation of the Cost of Improvements (Continued)

3) Unit-In-Place –

Use this method to cost out a specific item such as a door, window, sink, etc. These are also installed prices. These costs are a further breakdown of what is found in the segregated format, where you are looking for the price of one item at a time.

Review Notes

As indicated in the overview of the approach, “The unit-in-place is based upon the cost of various building components including the cost of materials and labor. The cost of each component is based upon the unit of measurement used in a particular trade. For example: Floor area based on square feet; Wall area based on linear feet; Air-conditioning in tons.

Indexes –

Gives you the ability to trend today’s cost back in time or bring a historical cost up to date. These are time factors in multiplier form that allow you to easily multiply or divide a known cost from the past or present.

Cost Approach Summary

In order to estimate the cost of the improvements the appraiser must select the best source of data to apply the chosen technique

1. There are several cost services that have published cost manuals for use in applying the comparative-unit and unit-in-place methods. Marshall Valuation Service (MVS), will be explained in the following sections of this course in order to illustrate these methods.
2. Local building contractors can provide information for use in the unit-in-place and quantity survey methods.
3. Appraisers' files of previous appraisals on new construction properties can provide data to use in subsequent appraisals.

Cost Approach Summary

Estimation of the Cost of Improvements (Continued)

There are several items that need to be addressed when you use a cost service.

- a. The appraiser must identify the most likely occupancy or use of the building.
- b. The construction characteristics must be known to identify the type of building being appraised.
- c. The quality of the building must be identified.
- d. The building characteristics that are different from the standard will need to be identified to refine or modify the base cost.
- e. It may be necessary to modify or interpolate the costs given when a building falls between two given costs.

Cost Approach Summary

Estimation of the Cost of Improvements (continued)

In order to estimate the cost of the improvements the appraiser must apply the components of cost (direct, indirect, and entrepreneurial profit or incentive) and be sure that all are included.

1.Direct costs (hard costs) are those costs directly involved with the construction of the improvement. These would be the materials, labor, overhead and profit for the contractor(s).

2.Indirect costs (soft costs) are those costs not physically on the property and will vary depending on the size and type of development. These include fees for architects, engineers, appraisers, financing and insurance costs, and marketing and administrative expenses.

3.Profit - If there is a third party bringing the elements of production together (developer or entrepreneur), and if supported by the market, entrepreneurial profit and/or incentives are in addition to the above costs and provide an economic reward for the entrepreneur to take the risk of developing the project.

Thank you for your time and attention



**See you next year in
Ottawa, Ontario**