




Commercial Cost Valuation – Marshall & Swift

Northeast Regional Association of Assessing Officers

May 23, 2017

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Your Instructor

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- Content Strategist with CoreLogic®
- 34 years in the Property Assessment Profession

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Commercial Cost Valuation

Objectives

- Basic understanding of CoreLogic research methods
- How to navigate quickly through the Marshall & Swift® Valuation Service cost manual
- Learn about Marshall & Swift Cost methodologies in simple to follow formats, which allow users to quickly apply newly learned techniques
- Review Commercial Estimator & SwiftEstimator™

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Commercial Cost Valuation
History of Marshall & Swift

A horizontal timeline showing the history of Marshall & Swift from 1932 to 2014. Key events include: 1932: Marshall & Swift Founded; 1936: Marshall Valuation Service and Residential Cost Handbook Published; 1965: Insurance to Value Concept Defined; 1965: Total Component Estimating Introduced; 1970s-1980s: Data and Methods Automated; 1979: Interchange's Value Resources Introduced; 2001: Merger Creates MIB; 2011: MIB Acquired by TPG Capital; 2012: MIB Joins with Symblity; 2014: MIB Acquired by CoreLogic, Inc.

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Commercial Cost Valuation
CoreLogic Overview

- CoreLogic has been in business for over 7 years
- Corporate headquarters in Irvine, California
- Approximately 6500 employees
- Marshall & Swift product provides construction and re-construction cost data to virtually anyone who needs it
- CoreLogic is a leading residential property information, analytics and services provider, acquired Marshall & Swift/Boeckh, a leading provider of residential and commercial property valuation solutions.

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Commercial Cost Valuation
Preface

- The Marshall & Swift Valuation Service (MVS) is a complete cost guide based on today's technology and building code for local construction. This data is broken down into three main sections
 - **Calculator Method:** Quick and simple way to value a structure such as Apartments, Stores, Warehouses, Offices, etc.
 - **Segregated Method:** Component by Component build-up of the structure such as foundation, frame, electrical, etc.
 - **Unit In Place:** Individual costs of items such as storage tanks, piping, prefabricated buildings, golf courses, etc.

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Today's Goal

- Learn about Marshall & Swift's Cost Research
- Spend less time and get better information.
 - Speed through the details with confidence.
 - Greater accuracy in your reports.
 - Greater understanding of the cost approach as done with Marshall & Swift.

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Agenda

- History of Marshall & Swift including Cost Research
- Layout and Contents of the Marshall & Swift Valuation Service Book/Commercial Estimator Software
- 3 Steps to a Cost Approach Appraisal
- Appraisal Example - 3 Methods, one conclusion
- Questions and Answers

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Commercial Cost Valuation

Introduction

- Proper understanding of this manual allows it to be used as a dependable tool that will help you obtain an accurate replacement cost of most structures and components.
- Knowing what occupancy and quality to use is paramount to the accuracy of the cost as a whole.
- These costs are from the general contractor to the owner/entrepreneur and are installed prices.
- These costs are for the building only, all yard improvements, furniture, fixtures and equipment need to be added separately.

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CoreLogic – Cost Research

- Cost Research provides information to:
 - Insurance / Underwriting (Majority using both Residential & Commercial)
 - Insurance Claims & Restoration Contracting (Nearly 20,000 users)
 - Real Estate Appraisal
 - Banking (required source)
 - Construction
 - Government
 - **Assessment (more than 80% assessors use us)**
 - Home Inspection

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Commercial Cost Valuation


Component Based Estimating Methodology – Introduced in 1983

- Recognize that almost all structures can be broken down into similar construction components. These components may be built differently or comprised of different materials; however, they serve the same purpose in the construction and finish of a building.
- Refer to these categories as **Assemblies**.

1. Site Preparation	11. Ceiling Finish
2. Foundation	12. Plumbing
3. Interior Foundation	13. Electrical
4. Foundation Wall	14. Heating Type
5. Structural Floor	15. AC Type
6. Floor Finish	16. Fire Protection
7. Exterior Wall	17. Elevators
8. Framing	18. Parapet/Overhang
9. Partition	19. Miscellaneous
10. Roof	




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Conversion of Assemblies into Formulas

1. $(Q)(F) = FQ$
2. $Q \rightarrow FQ$
3. $Q = FQ$
4. $Q = FQ$
5. $Q = (Q)FQ$
6. $Q = (Q)FQ$
7. $(Q)(Q) = (Q)FQ > [Q > (Q)FQ]$




Material Price

Fees

Crew Rate / Productivity Factor

OHP



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Data Team & Research

- Expertise in Data Team – Now called Enterprise Data Group
 - Architects, Engineers, Builders, Material Specialist, Appraisal backgrounds – Data Geeks!
 - Team has 350 years of combined Marshall & Swift service ~ 12 years average length of employment
 - Over 500 years of building experience
- Research – Formalized Methodology for over 80 Years
 - Independent collection by staff members
 - Collected and reported at 5 digit Zip Code localization
 - Collect by various methods:
 - phone, mail, internet, data feeds, field, independent research
 - Researched daily, Data updated monthly
 - Collection schedule based on material volatility and percentage of impact on total estimate value
 - Multiple Sources for each data element; cost is a blended price of three local sources:
 - Mom & Pop, Local Retailer and Big Box

Now Partnered with Home Depot

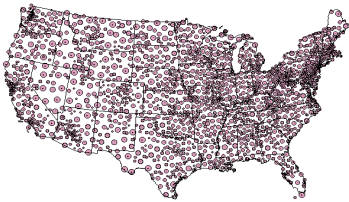
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Marshall & Swift Cost Research

- CoreLogic monitors labor wages, material and equipment costs for 2,629 locations nationwide.
- This ensures a 50 miles maximum radius specific cost accuracy.



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Collected Data



Construction Materials



Construction Labor



Construction Equipment



Building Codes



Construction Fees




Building Permit Costs



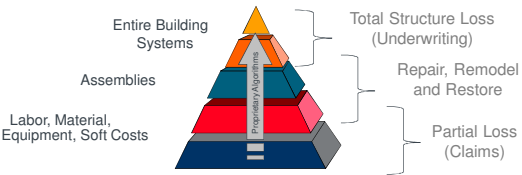
Market Conditions

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Total Components Estimating



Combination of these Data Elements create the Building Cost Database > 100,000 line items of construction.

Total Component Estimating methodology is used for all building types:
Residential (single family home, multi-family, condo, townhouse, mobile/manufactured) **plus Commercial & Agricultural.**

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Marshall & Swift Cost Research

- Database: Material/Labor/Equipment
- Components/Assemblies/Systems/Occupancies
- We continually collect **Material** data from three sources from called locations
 - Ready Mix Concrete, Concrete Block, Brick, Drywall, Structural Steel, Steel Deck, Asphalt Roofing, Re-bars, Galvanized Pipe, Copper Wire, Plywood, Lumber, Copper Pipe, PVC Pipe, Sand/Gravel, Aluminum, Milled Lumber, Steel Studs, Glazed Tile, Felt Roofing, Fiberglass Insulation, Polystyrene Insulation, Plate-Glass, Exterior Paint
- **Labor** wages are surveyed from Local Union Halls and District Councils. We also collect Prevalent wage rates from State Labor Departments and from the Internet, advertisements, etc.
- **Equipment** costs are also researched and updated in the same manner (cranes, mixers, backhoes, etc.)
- Cost data (material, labor and equipment) is updated monthly

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Marshall & Swift Cost Research

- Monthly cost information updates
- Research in 2629 zip code groupings nationwide
- In excess of 100,000 line items of construction
- 75 local wage rates
- Crew size, productivity, soft costs, code variations
- Specialty items (Hillside Foundation)
- Over 2,000 material selections
- Over 50 dynamic Knowledge Tables
- Component Technology exclusive to CoreLogic
- Thousands of modern assembly costs
- Accurate costs for all vintages
- Historical Data back to 1902

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Marshall & Swift Cost Research

- Localization also includes **geographic analysis** which takes into consideration building characteristics that are inherent to the geography. Geocoding accounts for how a building should be built (specifications needed to build).
- Proper valuation of buildings cannot be achieved if the following codes are not geography specific:
 - Seismic Zone, Wind Speeds
 - Frost Penetration, Insulation Requirements
 - Average Heating & Cooling Days
 - Snow Loads
 - Fire Zone Requirements
- These geographical parameters work like overlapping transparencies and are filtered through a set of rules to revise construction characteristics such as:
 - Excavation and Footing depth
 - Framing reinforcing
 - Ceiling/ Roof, Wall and Floor Insulation

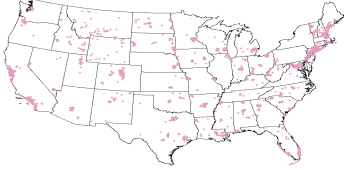
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High Worth Market Monitoring



- CoreLogic monitors areas where higher markups and productivity are needed for high value construction.
- There are over 3,336 high worth zip locations.

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What is Included in the Costs?

- The following are included in the Commercial Occupancy cost data:
 - Builders' risk insurance, building permits, national building codes, and model energy code standards
 - Architectural & engineering fees, field supervision, site surveys and building layout
 - Contractors' overhead, both general and job
 - Contractors' profit
 - Unemployment tax, Workers' compensation and employers' liability insurance, Public Liability Insurance, Social Security and Medicare
 - Sales tax on materials and labor, where applicable
 - Ideal building site (level, free of obstructions, accessible, adequate space to allow for the staging of materials and the movement of construction personnel and equipment)

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Commercial Cost Valuation

What is Included in the Costs?

- Foundation per climatic requirements
- Excavated spoil removed from site
- Built "slab at grade"
- Structural systems designed to meet the needs of specific occupancies in accordance with national building codes, insulating qualities to meet model energy code standards
- Building services in accordance with energy conservation guidelines
- Exterior cladding, interior finishes, and building services appropriate to specific occupancy and construction type, appropriate type and adequate amount of doors and windows
- Utility laterals to 10 feet outside of building perimeter
- Emergency lighting

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What is NOT Included in the Costs?

- The following are NOT included in the Commercial Occupancy cost data:
 - Demolition and Debris removal
 - Window treatments
 - Appliances
 - Balconies and Decks (unless specifically added)
 - Other items specific to various occupancies


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Commercial Cost Valuation

The Cost Approach to Commercial

- This course will teach you what the cost approach is and how you can utilize it to determine the replacement costs of commercial buildings and other improvements in the USA and Canada.
- To assist you in job accuracy and efficiency, a cost service such as Marshall & Swift Valuation Service provides you a complete, authoritative appraisal guide for developing replacement costs, depreciated values, and insurable values of buildings and other improvements.
- This course uses this cost service throughout to help you learn value determination of nearly every kind of improved property where replacement or reproduction cost is desired.



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Estimation of the Cost of Improvements

- ◆ In order to estimate the cost of the improvements the appraiser must:
 - A. Determine the appropriate cost basis for the assignment.
 1. **Reproduction**
 2. **Replacement**
 - B. Select the appropriate cost technique for the assignment
 1. **Comparative-unit**
 2. **Unit-in-place**
 3. **Quantity Survey**
 - C. Select the best source of data to apply this technique
 - D. The appraiser must apply the components of cost (direct, indirect, and entrepreneurial profit or incentive) and be sure that all are included.

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Estimation of Depreciation

- ◆ Estimating depreciation is the appraiser's measurement of the loss in value as reflected by the market for the deterioration or obsolescence of a structure.
 - Market Extraction
 - Age-Life
 - Breakdown
- ◆ **Note:** It is important in the selection and application of a method to be sure to consider all elements of depreciation and not to count any elements more than once.

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Estimation of Depreciation – Market Extraction Method

- ◆ Market Extraction is the most direct method, as it relies on the actions of the participants in a market. The following are the steps in this process:
 - A. Locate recent sales of similar structures with similar depreciation.
 - B. Adjust the sales for the following factors, if applicable.
 - ◇ Property rights conveyed
 - ◇ Financing
 - ◇ Conditions of sale
 - C. Subtract the land value from the sale's adjusted price to derive the depreciated value of the sale.
 - D. Estimate the reproduction or replacement cost new of all improvements of sale as of the date of that sale.
 - E. Subtract the depreciated value of the sale (c) from the cost new of the sale (d) to derive the total amount of depreciation in dollars.
 - F. Divide the amount of depreciation (e) by the total cost new (d) to arrive at the total percentage of depreciation.
 - G. Divide the total percent of depreciation by the actual age of the sale's improvements to annualize the depreciation.
 - H. Reconcile the range of several such extractions to arrive at an indication of the depreciation for the subject property.

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Estimation of Depreciation – Age-Life

- ◆ The age-life method reflects the depreciation (loss in value) of a property over its economic life.
 - A. There are two age factors.
 - ✦ Actual age
 - ✦ Effective age
 - B. There are two life factors.
 - ✦ Useful life
 - ✦ Economic life
 - C. There are two formulas to use in this method.
 - ✦ Actual age ÷ Useful life = % of depreciation
 - ✦ Effective age ÷ economic life = % of depreciation
 - D. This is the most used method as it is the easiest to do and to understand of the three methods.
 - E. The limitation of this method is that it calculates all forms of depreciation on a straight-line basis, which is not the way depreciation usually occurs.

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Estimation of Depreciation – Breakdown

- ◆ The breakdown method separates the amount of depreciation for each of the three forms of depreciation by use of either the market extraction or age-life methods.
 - A. The three forms of depreciation are as follows:
 1. Physical deterioration
 2. Functional obsolescence
 3. External obsolescence
 - B. This is the most accurate measurement of depreciation.
 - C. This is the least-used method as it is difficult, time-consuming and has more detail than is necessary in typical assignments.

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Basic Steps of the Cost Approach

- ◆ Now, you can go through the basic steps to get the final market value of the subject property being appraised.
 1. Subtract the amount of depreciation from the estimated cost to arrive at the depreciated value of the improvements.
 2. Add the contributory value of site improvements. The contributory value of site improvements is estimated based upon comparison with similar improvements in the area.
 3. Add land value. The land value is then added to the depreciated value of the improvements and site improvements.
 4. The total is the market value of the subject property by the cost approach.
 5. Adjust indicated market value if any other interest is being appraised. The indicated market value must be adjusted if any interest other than fee simple is being appraised.

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Commercial Cost Valuation

The Use and Reliability of the Cost Approach

- The cost approach is **most reliable** in the following assignments:
 - New or proposed construction
 - Improvements represent highest and best use of land
 - Land value well supported
 - Special-purpose properties – Nestle Case
 - Properties with lack of sales – Small town?
 - Properties not used for income generation – Owner Occupied
- The cost 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 of land
 - Properties with a partial interest (leased fee)
 - Active market where buyers base purchase on sales of similar properties or income potential

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The Uniform Standards of Professional Appraisal Practice (USPAP) Requirements

- The USPAP is the generally recognized ethical and performance standards for the appraisal profession in the United States.
- USPAP contains standards for all types of appraisal services, including real estate, personal property, business and mass appraisal.
- USPAP is updated every two years so that appraisers have the information they need to deliver unbiased and thoughtful opinions of value.
- The USPAP requires all appraisers to adhere to the following guidelines on page 10.

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Types of Cost Data

- **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. This is known as the Calculator Method in this service.

Cost Approach Review

As indicated in the overview of this approach, "The comparative-unit is based upon the cost in terms of dollars per unit (per square foot, per cubic foot, etc.)."

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Commercial Cost Valuation

Types of Cost Data

- Assembly Costs** – The Assembly (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.

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Types of Cost Data

- 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.


Cost Approach Review

As indicated in the overview of this 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.

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The Cost Approach to Commercial

HOTELS
A rough guide which may be used for quick budgeting of hotels is that the total cost per room should be \$1,000 for each \$0.64 to \$0.75 of daily room rent projection for limited service hotels, or \$1.20 to \$1.17 for full service hotels. This, with average conditions, should give an adequate estimation.

COST PER HOTEL ROOM
Cost per room includes cost of garages, shops, lounges, banquet rooms, kitchens, etc., commensurate with the quality, completely equipped, ready for operation, including references. Reported costs for some destination luxury properties have been as high as two to three times the listed costs. See Section 85 for greater detail, as other indirect and capital costs can add 15% to 30% to these costs. The quality ranges include typical economy, standard and luxury hotel properties. For motel costs per room, see Section 12.

TYPE	QUALITY	COST RANGE PER ROOM
Class A	Excellent	185000.00 – 217000.00
	Good	127000.00 – 210000.00
	Average	84000.00 – 141000.00
Class B	Excellent	185000.00 – 303000.00
	Good	122000.00 – 254000.00
	Average	81000.00 – 130000.00
Class C	Excellent	120000.00 – 212000.00
	Good	80700.00 – 145000.00
	Average	55000.00 – 100000.00
Class D	Good	83000.00 – 139000.00
	Average	55000.00 – 95000.00
	Low	38000.00 – 66200.00


- Rules of Thumb**
 - This method is best used for generating a quick building estimate. By knowing the number of rooms in a hotel, you can multiply a given price by the number of rooms to get a composite building cost. For example, say we choose an average quality class C Hotel with the lowest price range of \$59,250 x 500 rooms. Our answer would be \$29,625,000.

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Commercial Cost Valuation
Who Uses Cost Data

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- Anyone who needs to estimate building costs can make good use of the cost service.
- Marshall & Swift serves nearly 20,000 clients in the following industries:

 Government	 Real Estate Appraisal	 Banking and Lending
 Education and Institutional	 Property and Casualty Insurance	 Property and Preservation

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When to Use Cost Data

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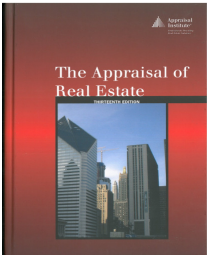
- Building Cost Data is important in evaluating the value of:
 - Lending
 - Assessing
 - Insurance and Rate Settling
 - Estimating and bidding for new construction or for partial loss and damage repair
 - Real Estate Listing & Market Comparable Tool
 - A preliminary budget-feasibility study
 - Design alternative life-cycle costing tool
 - Energy audits and sinking fund and reserve estimates
 - Valuation of special purpose properties
- Construction cost information is crucial to projecting cost into the future as well as the current value.

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Commercial Cost Valuation
Cost Approach

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- In the cost approach, a property is valued based on a comparison with the cost to build a new or substitute property.
- The cost estimate is adjusted for the depreciation evident in the existing property.



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Definition of the Cost Approach

- **Definition:** 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 value of the property interest being appraised.

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Cost Methodologies

- **Calculator "Square Foot Method"**
 - Average square meter, square foot and cubic foot costs for typical buildings.
 - Costs are classified by class and quality of construction.
- **Segregated Cost Method**
 - Separate consideration to all of the major construction assemblies or systems (groups of components) of a building
 - Vary the quality level for individual components


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Commercial Cost Valuation


What the Costs Contain

- **Calculator "Square Foot Method"**
 - Final Cost to the owner from the general contractor
 - Represents completely finished buildings in the physical or hard construction sense, but not necessarily completely finished projects
 - All material and labor costs include all appropriate local, state and federal sales or GST taxes, etc.



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Geographic Information Systems (GIS)



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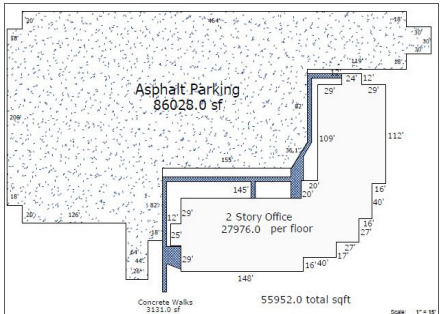
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Use to Verify Sizes



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Commercial Cost Valuation
Digital Sketch



Asphalt Parking
86028.0 sf

2 Story Office
27976.0 per floor


Concrete Walks
2113.0 sf

55952.0 total sqft

Scale: 1" = 33'

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Commercial Cost Valuation

Occupancy

- APARTMENTS, HOTELS AND CLUBS
- RESIDENCES AND MOTELS
- STORES AND COMMERCIAL BUILDINGS
- GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES
- OFFICES, MEDICAL AND PUBLIC BUILDINGS
- CHURCHES, THEATERS AND AUDITORIUMS
- SHEDS AND FARM BUILDINGS
- SCHOOLS AND CLASSROOMS

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Determining Occupancy

- Office buildings are buildings designed for general commercial occupancy, including administrative government and corporate uses, and are normally subdivided into relatively small units.



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Building Class

CLASS OF CONSTRUCTION INDICATORS

CLASS	FRAME	FLOOR	ROOF	WALLS
A	Structural steel columns and beams. Reproducible with masonry, concrete, plaster, or other noncombustible material.	Concrete or concrete on steel deck, fireproofed.	Formed concrete, precast slabs, concrete or gypsum on steel deck, fireproofed.	Nonbearing curtain walls, masonry, concrete, metal and glass panels, terra, steel studs and masonry, tile or stucco, etc.
B	Reinforced concrete columns and beams. Fire-resistant construction.	Concrete or concrete on steel deck, fireproofed.	Formed concrete, precast slabs, concrete or gypsum on steel deck, fireproofed.	Nonbearing curtain walls, masonry, concrete, metal and glass panels, terra, steel studs and masonry, tile or stucco, etc.
C	Masonry or concrete load-bearing walls with or without diaphragms. Masonry, concrete or curtain walls with full or partial open steel, wood, or concrete frame.	Wood or concrete planks on wood or steel floor joists, or concrete slab on grade.	Wood or steel joists with wood or steel deck. Concrete plank.	Brick, concrete block, or tile masonry, sh- up, formed concrete, nonbearing curtain walls.
D	Wood or steel studs in bearing wall, full or partial open wood or steel frame, generally combustible construction.	Wood or steel floor joists or concrete slab on grade.	Wood or steel joists with wood or steel deck.	Almost any material except bearing or curtain walls of solid masonry or concrete. Generally combustible construction.
S	Metal beams, columns, girders, joists and girts without fireproofing. Incombustible construction.	Wood or steel deck on steel floor joists, or concrete slab on grade.	Steel or wood deck on steel joists.	Metal skin or sandwich panels. Generally incombustible.


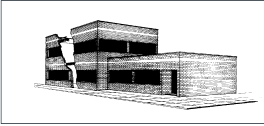
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Commercial Cost Valuation

Determining Building Class

- Class C buildings are characterized by masonry or reinforced concrete (including tilt-up) construction.
- The walls may be load-bearing, i.e., supporting roof and upper floor loads, or non-bearing with open concrete, steel, or wood columns, bents or arches supporting the load.




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Commercial Cost Valuation

Determining Quality

- **First**, to judge quality, it is suggested that the cheapness or expensiveness of materials or components be observed.
- **Second**, see if workmanship is at a level normal to the type and grade of material used.
- **Third**, and most important, the user should consider the amount of the various components typical for its class.



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Commercial Cost Valuation

Determining Quality (Continued)

- Observe cheapness or expensiveness of materials





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Commercial Cost Valuation

Determining Quality (Continued)

- See if workmanship is at a level normal to the type and grade of material used.

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Commercial Cost Valuation

Determining Quality (Continued)

- User should consider the amount of the various components typical for its class.
- Look for more than the average number of windows, doors and plumbing fixtures
- An asphalt cover on a hip roof with large overhangs may be average, however the extra quantity causes the building to have above average cost.
- Overall size and complexity of the structure should be considered. Small structures will tend to have higher unit costs than very large ones.

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Commercial Cost Valuation

Simple Calculator Report

- Basic entries used to generate cost report


CALCULATOR COST FORM
For subscribers using the MARSHALL VALUATION SERVICE Calculator Cost Method

SQUARE FOOT COSTS

1. Subscriber making survey _____ Date of survey _____
 2. Name of building _____ Owner _____
 3. Located at _____

	SECTION I	SECTION II	SECTION III	SECTION IV
4. Occupancy				
5. Building class and quality	Clb. ___ Qual. ___	Clb. ___ Qual. ___	Clb. ___ Qual. ___	Clb. ___ Qual. ___
6. Exterior wall				
7. No. of stories & height per story	No. ___ Ht. ___	No. ___ Ht. ___	No. ___ Ht. ___	No. ___ Ht. ___
8. Average floor area				
9. Average perimeter				
10. Age and condition	Age ___ Cond. ___	Age ___ Cond. ___	Age ___ Cond. ___	Age ___ Cond. ___
11. Region: Western ___ Central ___ Eastern ___				
12. Climate: Mild ___ Moderate ___ Extreme ___				

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Commercial Cost Valuation


Yard and Other Improvements

LIGHTING AND PUBLIC UTILITIES

Water, gas and electric costs vary considerably with local requirements and codes. Often all or a portion of the initial cost, maintenance and replacement is included in an assessment or increased utility rate charged to the consumer. Sometimes an additional charge is made in remote or hilly areas for special service or additional equipment. These requirements should be checked locally. The average costs below are approximate maximum costs for a typical subdivision, all or part of which may be borne by the community or secured against the property. Some of these costs may be refundable to the developer. Specific pipe costs can be found in Section 62. For general site clearing, grading, and soil stabilization, see Section 51. For septic tanks, see Sections 53 or 17. For storm water management, see Page 11.

PUBLIC UTILITIES	Cost Range	Average Unit Cost
Street light, underground wiring, 200' o.c., each	1,900.00 – 6,600.00	2,900.00
Street lights, overhead wiring, 200' o.c., each	1,300.00 – 3,300.00	1,770.00

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Commercial Cost Valuation


Depreciation

DEFINITIONS

Depreciation is loss in value due to any cause. It is the difference between the market value of a structural improvement or piece of equipment and its reproduction or replacement cost as of the date of valuation. Depreciation is divided into three general categories, as discussed below.

1. Physical depreciation is loss in value due to physical deterioration.
2. Functional or technical obsolescence is loss in value due to lack of utility or desirability of part or all of the property, inherent to the improvement or equipment. Thus a new structure or piece of equipment may suffer obsolescence when built.
3. External, locational or economic obsolescence is loss in value due to causes outside the property and independent of it, and is not directly included in the tables.

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Commercial Cost Valuation

Depreciation

- ◆ Select the correct Life expectancy followed by the effective Age to determine Physical depreciation of structure

LIFE EXPECTANCY GUIDELINES


TYPICAL BUILDING LIVES

OCCUPANCY CLASS	A	B	C	D	S
Offices, good and excellent	60	60	50	50	45
average	55	55	50	45	45

DEPRECIATION - COMMERCIAL PROPERTIES

EFFECTIVE AGE IN YEARS	TYPICAL LIFE EXPECTANCY IN YEARS									
	10	11	12	13	14	15	16	17	18	19
1	0	0	0	0	0	0	0	0	0	0
2	0	1	1	1	1	2	2	3	3	3
3	0	1	1	2	2	3	4	4	5	5
4	1	1	2	2	3	4	5	5	6	6
5	1	2	2	3	4	4	5	6	6	7
6	1	2	3	3	4	5	5	6	7	7
7	1	2	3	4	4	5	6	7	7	8
8	1	2	3	4	5	5	6	7	8	8
9	2	3	4	4	5	6	7	8	8	9
10	2	3	4	5	5	6	7	8	9	9
11	2	4	5	5	6	7	8	9	10	10
12	2	4	5	6	6	7	8	9	10	10
13	2	5	6	6	7	8	9	10	11	11
14	3	5	7	7	8	9	10	11	12	12
15	3	6	8	8	9	10	11	12	13	13
16	3	7	9	9	10	11	12	13	14	14
17	4	7	10	10	11	12	13	14	15	15
18	4	8	11	11	12	13	14	15	16	16
19	4	9	12	12	13	14	15	16	17	17
20	5	9	13	13	14	15	16	17	18	18

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Commercial Cost Valuation

Marshall Valuation Service Value Conclusion

- Land - \$1,631,600
- Building - \$8,544,644
- Total - \$10,176,244

- Do you Round?

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Commercial Cost Valuation

Commercial Estimator



Commercial Estimator

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Commercial Cost Valuation

Commercial Estimator

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Commercial Cost Valuation

SwiftEstimator - Detailed Segregated Cost Report


- Detailed entries used to generate cost report

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Commercial Cost Valuation

SwiftEstimator

 Marshall & Swift
SwiftEstimator™

SAMPLE REPORTS TUTORIALS LOGOUT HELP

Segregated Estimator™ Estimate ID: 379-9999-38


General Information

General Information Detail

Estimate ID	379-9999-38
Property Owner	The Jones Company
Address	30001 Innovation Drive
City	Westborough
State/Province	Massachusetts
ZIP/Postal Code	01581
Survey Date	05/04/2017
Surveyed By	James Sellers
Comment	


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Commercial Cost Valuation

SwiftEstimator

 Marshall & Swift
SwiftEstimator™

SAMPLE REPORTS TUTORIALS LOGOUT HELP

Segregated Estimator™ Estimate ID: 379-9999-38

Building Data

Building Section Detail

Building Section Detail	Market Name	Construction Class
Section ID	Estimate Office/Structure	
Quantity	Construction Class	<input type="button" value="SHOW ESTIMATE"/>
Construction Class	Market Building/Build	

Building Data Detail

Total Floor Area	10000	Square Feet
Net Floor Area	7500	Square Feet
Avg. Story Height	14	Feet
Quality Score	Good	
Condition	Good	

Decorations Detail

Asphalt & Gully Poles		N
Decorative Panels		N
Arch Pedimental		N
Decorative Pedimental		N
Appl. On Storage Unit		N
Arch. Cast. Decorations		N
Decorative Ornamentation		N
Ornate Apr. 12"		None
Typical Apr.		None

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Commercial Cost Valuation

SwiftEstimator

Estimate Totals			
	Cost New	Depreciation	Depreciated Cost
	\$11,099,184	\$893,456	\$10,205,728

Section Totals			
Section	Cost New	Depreciation	Depreciated Cost
Complete Office Structure	\$11,099,184	\$893,456	\$10,205,728

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Commercial Cost Valuation

SwiftEstimator Value Conclusion

- Land - \$1,631,600
- Building - \$8,574,128
- Total - \$10,205,728
- Do you Round?


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Commercial Cost Valuation

Cost Value of 10001 Innovation Drive

- \$10,200,000

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Thank you for your time and attention.


Any questions?

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- (262) 780-3212

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