

Cut Construction Costs: 20 Proven Techniques

**Presented by:
Charles C. Shinn, Jr., PhD
President
Lee Evans Group / Shinn Consulting**

- A. The importance of controlling and cutting construction costs
 - 1. Largest cost classification
 - a. Typically 55% to 62% of sales
 - b. Too high to allow for superior profit
 - c. Cost of sales (land and direct construction costs need to be 70% or less, to generate good profitability)
 - 2. Variable cost increasing the marginal rate of profitability
 - a. If you can reduce construction costs by \$10 per cost code:
 - 1) Typically about 100 cost codes per house
 - 2) Creates \$1,000 of increased profit per house
 - 3) If you sell 100 homes a year, then your profits increase by \$100,000
 - 3. Need to continually monitor, control and reduce direct construction costs
 - a. Attack on all fronts
- B. Change in the environment
 - 1. From a sellers market to a buyers market
 - 2. Ability to raise sales price, to needing to discount sales price
 - 3. Discounts are 100% profit dollars
 - 4. Controlling and reducing costs is critical
- C. Profit is generated by velocity and gross profit
 - 1. Sales price needs to be set to generate velocity
 - 2. Each house has to generate adequate gross profit (sales price – cost of land and direct construction costs)
 - 3. Contribution margin has to cover fixed costs and generate target profit

- D. The dynamics of sales price and costs
 - 1. Dynamics of sales price changes
 - a. Decisions to increase the sales price increase the marginal rate of profitability
 - 1) Increasing the sales price by \$5,000 for a 100-unit a year builder potentially increases profits by \$500,000
 - b. Increases in sales price tend to reduce sales velocity
 - 2. Dynamics of operating expense changes
 - a. Decisions to decrease operating expenses DO NOT increase the marginal rate of profit
 - 1) A \$5,000 reduction in operating expenses will only increase the profit by \$5,000
 - b. This is typically the first action taken by builders in a softening market
 - 3. Dynamics of direction cost change
 - a. Decisions to reduce construction costs increase the marginal rate of profit
 - 1) A reduction in direct construction costs of \$5,000 for a 100 unit a year builder will increase profits by \$500,000
 - b. Reductions in construction costs typically DO NOT impact sales velocity
 - c. The sales price can be reduced dollar-for-dollar of construction cost reduction
 - 1) Increases the percentage profit
 - 2) Possibly increases sales velocity
 - d. Many builders will increase operating expenses to reduce construction costs because of the dramatic impact reducing construction cost has on profit
- E. Direct construction costs are the only variable
 - 1. The market sets the sales price
 - 2. Target profit should not be negotiable

3. Land costs are fixed
4. Operating expenses are generally fixed for the period
 - a. Indirect construction costs
 - b. Financing expense
 - c. Marketing expense
 - d. General and administrative expense
5. Historical construction cost variances are fairly consistent
6. Average warranty expenses are generally consistent
7. Direct construction costs are the variable cost
 - a. You have the most control over these costs
 - b. You need to attack on all fronts to control and reduce

F. 20 Proven Ways to Reduce Direct Construction Costs

1. Develop target direct construction cost budgets
 - a. Design, specify, estimate and bid toward the targets
 - b. Exhibits I and II
 - c. Trade off direct construction cost for direct construction cost - not your profits
2. Improve working drawings
 - a. Develop a Scope of Work for the architect
 - b. Uniformity of drawings
 - c. Improve accuracy and details
 - d. Consistency of information and location
 - e. Ask your superintendents and trade contractors for input
3. Design and specify the home for your customers
 - a. Customer research
 - 1) Survey your traffic
 - 2) Survey your home buyers
 - 3) Dessert social: Monopoly night
 - b. Fall out of love with your homes

4. Analyze standard specifications
 - a. Immediate impact on reducing direct construction costs
 - b. Matching competition
 - 1) Verify that it is truly standard
 - 2) Determine quantity, quality, grade, and details
 - c. Understand the customer's perceived value
 - d. Develop practice of "zero" base specifications
 - 1) Strip standard specification to basics
 - 2) Conduct cost / benefit analysis
 - 3) Add back items giving adequate returns
 - 4) Create options and upgrades of the rest
5. Don't overdo the amount of a standard specification
 - a. Extra amounts of standard features have:
 - 1) Diminishing value
 - 2) Eliminate potential upgrades
 - 3) Probably are given away
6. Change the level of specification from the first floor to the second floor
 - a. The first floor (public area) and the second floor (private area) do not need to have the same level of finish
 - 1) Three-piece crown to one-piece crown
 - 2) Large base to normal base
 - 3) Window trim to drywall wrap
 - 4) Nine foot ceiling to eight foot ceiling
 - 5) Eight foot doors to 6' 8" doors
7. Analyze low gross profit plans
 - a. Conduct comparative job cost budget analysis
 - b. Compare target job costs to actual
 - 1) Highlights high cost areas
 - c. Take action to reduce those job cost classifications
8. Implement a true purchase order system
 - a. Release purchase orders for all direct construction costs
 - b. Do not accept invoices

- c. Pay only purchase order amounts
 - d. Additional pay can occur only if a variance purchase order was approved prior to work or material delivery
9. Issue complete construction start package prior to start
- a. Customer selections complete before start of construction
 - b. Minimize or eliminate late change orders
 - c. Minimizes confusion, delays, mistakes, and rework
10. Improve estimating and purchasing
- a. Conduct in-house detailed quantity take-offs
 - b. Don't leave it to the trades and vendors
 - c. Qualify trades and vendors
 - d. Document the agreements
 - 1) Trade Contractor Agreements
 - 2) Vendor Agreements
 - 3) Scopes of Work
 - 4) Checklists, to ensure complete prior to payment
 - e. Bid on unit prices, not lump sum
 - 1) Don't bid every job
 - 2) Lock bid price for a period of time
 - 3) Unit price locked, only unit quantity changes
11. Value engineer plans
- a. Analyze for construction efficiencies
 - 1) Exhibit III
 - b. Consider new and alternate materials
 - c. Implement material and labor saving techniques
12. Work with the trades to eliminate inefficiencies
- a. Establish a trade council
 - b. Become the builder of choice
 - 1) Treat trades like part of your company
 - 2) Eliminate dry runs
 - 3) Reliable construction schedules
 - 4) Well managed job sites

- 5) Clean and organized job sites
- 6) Job sites ready
- 13. Conduct “As-Built Audits”
 - a. Superintendent and estimator should audit the use of materials to verify estimate and correct construction techniques
- 14. Gain control of construction cost variances
 - a. Variances can equal or exceed profits
 - b. Implement a variance purchase order system
 - c. Analyze all variances to determine cause
 - d. Eradicate variances
- 15. Don’t get wed too closely to your trade contractors
 - a. Sacred cows cost a lot
 - b. Adequately competitively bid
 - 1) Minimum of three bids, always
 - c. Be willing to release job to a new trade contractor
 - d. Keep them honest
- 16. Question the engineers
 - a. Structural design
 - b. Truss design
 - c. Floor system design
 - d. HVAC system design
- 17. Improve your negotiating techniques
 - a. Negotiate with intelligence
 - 1) Do your homework
 - 2) Plan your negotiation
 - b. “Little you ask for, little you get”
 - c. Things to negotiate
 - 1) Price
 - 2) Payment discounts
 - 3) Volume discounts
 - 4) Upgraded specifications
 - 5) Model home discounts

- 6) Model home product replacement
- 7) Design center displays
- 8) Design center display maintenance
- 9) Sales training for sales staff
- 10) Collateral product brochures
- 11) Installation training for superintendents and trade contractors
- 12) Repair training for warranty personnel
- 13) Warranty service supplies
- 14) Warranty coverage
- 15) Service commitment
- 16) Administrative assistance
- 17) Change draw percentages
- 18) Assume competitors service obligation
- 19) Delivery arrangements
- 20) Material protection
- 21) Backorder penalties
- 22) Schedule delay penalties
- 23) Conference facilities
- 24) Manufacturer rebates
- 25) Supply guarantee

18. Break up turnkey trades

- a. Buy material and labor separately
- b. Can save 15% to 25%
- c. Superintendents will complain
 - 1) Will have to manage material
- d. Break up and re-bundle

19. Improve material inventory and control

- a. Inventory material deliveries
- b. Protect material upon delivery and installation
 - 1) Entry doors
 - 2) Countertops

3) Showers and tubs

c. Monitor, and reduce, the dumpsters

1) Watch the waste and excess material

d. Watch for diverted materials

e. Return unused and damaged material for credit

20. Standardize construction processes

a. Be consistent and reliable

b. Efficient and effective

c. Establish a culture of discipline

G. Summary

Controlling and reducing direct construction costs are critical to becoming a superior profit builder. In today's housing slump, with the need to reduce sales prices to maintain volume, it is extremely important to reduce direct cost to maintain profits.

EXHIBIT I

MARKET BASE AVAILABLE CONSTRUCTION COST BUDGET

	<u>Factor</u>	<u>Budget</u>
Sales Price	1.0000	\$ 350,000
Profit	0.1000	35,000
Land	0.2000	70,000
Financing	0.0400	14,000
Marketing	0.0600	21,000
Indirect Construction Costs	0.0300	10,500
Warranty	0.0050	1,750
General & Administrative	0.0450	15,750
Historical Slippage	0.0200	7,000
Total Direct Construction Costs	0.5000	175,000

EXHIBIT II

PRELIMINARY DIRECT CONSTRUCTION COST BUDGETS

TOTAL DIRECT COST BUDGET	0.5000	\$ 175,000
PRELIMINARY		
Plans	0.0045	787
Permits	0.0262	4,585
PREPARATION		
Excavation	0.0138	2,415
Foundation	0.1561	27,318
Steel	0.0049	858
Waterproofing	0.0026	455
ROUGH STRUCTURE		
Lumber - frame and trim	0.2026	35,455
Trusses	0.0162	2,835
Stairs	0.0054	945
Windows, Sliding Doors	0.0306	5,355
Front Door	0.0042	735
Garage Doors	0.0069	1,208
Framing Labor	0.0623	10,903
Fireplace	0.0100	1,750
Gutters and Downspouts	0.0048	840
Roofing	0.0200	3,500
Masonry	0.0182	3,185
Utility Connections	0.0039	683

FULL ENCLOSURE

Plumbing	0.0854	\$	14,945
Heating	0.0211		3,693
Electrical	0.0216		3,780
Telephone	0.0010		175
Insulation	0.0204		3,570
Drywall	0.0481		8,418

INTERIOR FINISH

Interior Trim	0.0620		10,850
Painting	0.0275		4,812
Cabinets	0.0161		2,818
Countertops	0.0070		1,225
Wall Tile	0.0047		822
Shower Doors, Mirrors	0.0026		455
Hardware	0.0046		805
Appliances	0.0141		2,468
Electrical Fixtures	0.0062		1,085
Vinyl Flooring	0.0045		788
Carpet	0.0302		5,285

COMPLETION

Finish Grade	0.0052		910
Final Clean	0.0044		770
Common Labor and Clean	0.0113		1,978
Miscellaneous	0.0050		875

EXHIBIT III

SPECIFIC THINGS YOU CAN DO TO REDUCE DIRECT CONSTRUCTION COSTS

1. Redesign HVAC system
 - a. Reduce duct size
 - b. Reduce A/C unit
 - c. Reduce furnace unit
2. Change water heater to 40-gallon
3. Reduce carpet and / or pad grade
4. Reduce upper kitchen cabinets to 36", from 42"
5. No closer wall on kitchen cabinet wall
6. Eliminate cabinet fillers
7. Design kitchen for 24" cabinets
8. Eliminate 9" cabinets
9. Lower ceilings to 9' standard instead of 10'
10. Lower second floor ceiling height
11. Eliminate transom windows
12. Raise windows to minimum of 16" off floor, to eliminate tempered glass
13. Eliminate window at stair landing – tempered glass
14. Eliminate or use clerestory window over tub – tempered glass
15. Reduce the number of windows
16. Standardize window sizes for all plans
17. Lower pitch of roof to walkable roof - 7.5/12 or less
18. Eliminate crown molding in coffered ceilings
19. Crown molding only in dining room as standard
20. Drywall wrap or half-jamb bi-fold and bi-pass closet doors
21. Eliminate window trim on all, or at least second floor, windows
22. Reduce amount of handrail and pickets
 - a. Half-walls are much cheaper
23. Eliminate rosettes – install dead wood
24. Eliminate front door sidelight, kick plate and peephole
25. Minimize angled walls
26. Build over garage – use attic truss
27. Use gable end truss over common wall between garage and house to eliminate need to drywall garage ceiling
28. Frame non-load bearing walls 24" on center
29. Use ladder "T"s" for all wall intersections
30. Use California corner framing technique
31. Use pedestal sink in powder room instead of cabinet vanity
32. Standard round toilet instead of elongated
33. Switched outlet instead of ceiling light in bedrooms
34. Eliminate bath banjo tops and reduce mirror
35. Eliminate need to cut bath mirror for outlets or light fixture

Shinn Group of Companies

Shinn Consulting

Our mission is to improve the professionalism of the home building industry.

Our services include:

- Business management and specialized consulting for all aspects of the builder's organization
- Best practice awareness and experience exchange through facilitation of builder groups and in-house seminars
- Ownership transitions and other exit strategies including sale of the business
- Facilitation and guidance of the strategic planning process and development of business plans

Lee Evans Group

The Lee Evans Group has been the premier organization in management education for the home building industry since 1954. Our seminars focus on management techniques to improve profitability, assist in controlled growth, survive during tough economic times and provide construction controls.

All of our seminars are designed to help the builder:

- Satisfy customers by building the house right the first time, then giving superior customer service
- Manage capital and financial operations to achieve high profitability
- Build strong and integrated systems to make the management job easier and less stressful
- Train and educate personnel to work as a team to produce superior results

Builder Partnerships

Operating as an agent for over 35 builders constructing more than 10,000 units annually, Builder Partnerships fosters communication and cooperation between builders and manufacturers. Our focus is to create win-win relationships for both builder and manufacturer.

Our program:

- Improves communication and interaction between builder and manufacturer
- Manages a comprehensive specification agreement and rebate program
- Streamlines the purchasing decision
- AND, much more

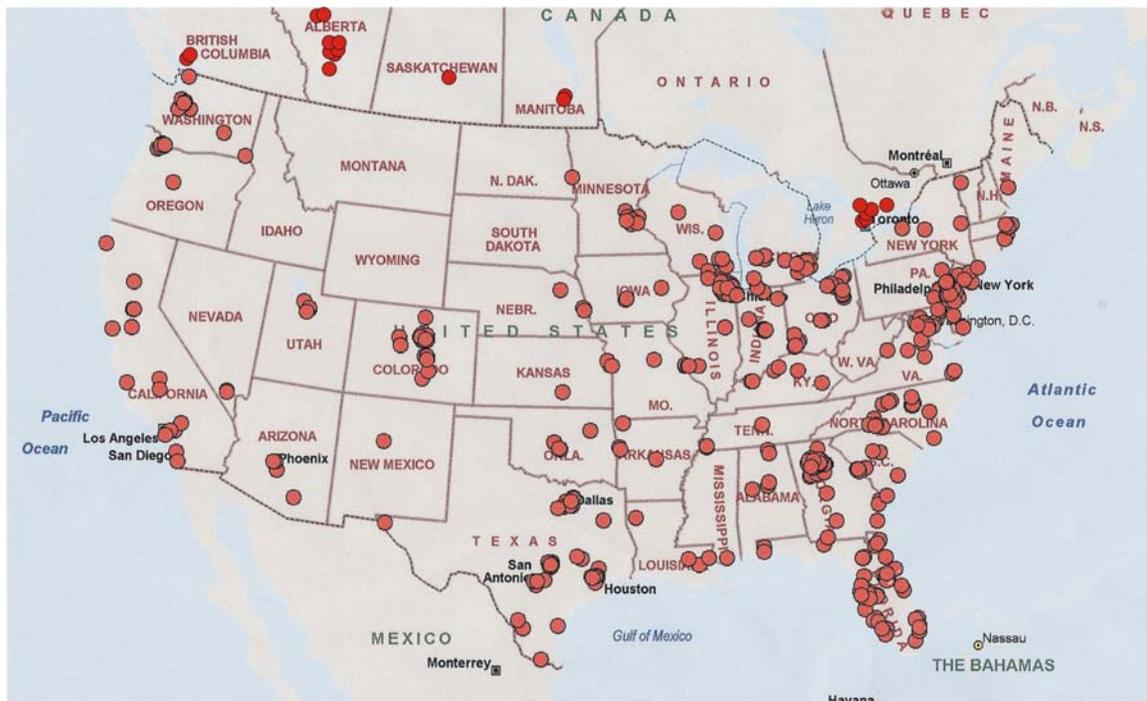


Our Clients

Our primary clients include:

- Medium to large volume regional builders seeking to increase their profitability
- Other players in the home building industry, including manufacturers, financial entities, software companies and other suppliers

Our builder clients, located across the United States and Canada, include top performers among regional homebuilders. Many of these companies have been recognized by home building professional magazines and local Home Builder Associations (HBAs) for their successful management styles; and are considered spheres of influence within their communities.



Shinn Group of Companies
6793 W. Canyon Ave., Suite 13A
Littleton, CO 80128
303.972.7666
1.877.332.1069
Fax: 303.972.7667
www.shinnconsulting.com