What we *Learned* by

Framing the AMERICAN DREAM®

	Stick Frame	Trusses & Wall Panels	Savings
Total Job Site Man-Hours to Erect	401*	148*	**253**
Total Job Site Man-Hour Cost @ $20/Hour for Average Framing Crew Labor (Components used Crane @$500)	$8,020	$3,460	**$4,560**
Total Bd. Ft. Lumber (Sheathing Panels Same for Both)	20,400	15,100	**5,300**
Total Cost of Lumber @ $450/1,000 Bd. Ft. (Average) Sheathing @ $3,748 (Same for Both) and Components @ Truss Manufacturer's Selling Price	$12,928	$14,457	**($1,529)**
Total Lumber and Panel Scrap Generated	17 yards	4 yards	**13 Yards**
Total Scrap Cost @ $15/Yd. Dumpster Cost and Man-Hour Cost to Pick Up	$425	$100	**$325**
Total Cost for this 2,600 Sq. Ft. House Plan	$21,373	$18,017	**$3,356**

▲ Use of Trusses and Wall Panels Resulted in a 16% Savings in Total Labor and Material Costs.

▲ Apply Local Lumber, Labor and Dumpster Costs to Make Your Area's Cost Comparisons.

** Number Includes Time for Daily Clean-up and Scrap Pick-up.*

Craftsmanship in Wall Panel Framing

- Wall lumber use can be optimized, with studs designed at the optimum spacing for the applied roof and floor truss loads. Generally, less lumber is required.
- Placement plans can be generated, picking up all bearing locations and showing correct locations, for easy setting. Wall panels are marked accordingly.
- High quality material is used.
- Walls are square.
- Proper nailing patterns are used.
- Studs and headers are designed to support applied loads.
- Sheathing can be applied in the factory, saving time in the field.

"In working with contemporary homes, building with components holds your dimensions plumb, square and true, ensuring a dimensionally accurate home, reducing call-backs."

John Teschky,
Teschky, Inc.
Glenview, Illinois

What We Learned about Wall Framing

	Stick Frame	Component	Savings
Man-Hours to Frame	93 Hours	26½ Hours	**66½ Hours**
Quantity of Lumber	4,598 Bd. Ft.	4,598 Bd. Ft.	**0 Bd. Ft.**

"You have to look at your bottom line, and the bottom line is that you save money with components. You pay more for a truss, but you can put it in so much faster.

"Time and man power are very difficult to come by. Using components, you can take the same man power and do so much more work."

Roy Wilder
Wilder Construction
Middlesboro, Kentucky

Craftsmanship in Roof Truss Framing

- Complex roof and ceiling profiles are easy to design with today's software.
- Hip and valley roof systems are much easier to build using trusses than with conventional framing.
- Trusses can be used with a variety of on-center spacings, to optimize strength and lumber resources.
- Long clear spans are easy to create, reducing or eliminating the need for interior bearing walls, beams and columns.
- Structures are dried in more quickly, saving time and avoiding weather-related delays.
- Your imagination is the only limit when you design with trusses.

Builders Praise Components

"Building with components, I went from having 25 men to eight men on the job site, and I doubled my dollar volume.

"Every hour I take out of the field decreases my liability, overhead, and workers' comp.

"There's no trash to pick up. A clean job site makes a safe job site.

"I was a firm believer in stick framing for years, but I'll never go back."

Rick Thompson,
Rick Thompson & Sons
Princeton, Illinois

Our Purpose

The Wood Truss Council of America, in cooperation with the Building Systems Council of NAHB, sponsored the *Framing the American Dream®* project to better understand wood framing. It was the first time two identical house plans were completely framed using two different methods—one stick-built, and the other with wood trusses and wall panels (components). Here's what we learned:

Craftsmanship through Engineering

Every building is an engineered structure. The moment a nail is driven into two boards, load transfers from one board to the other, so designing and engineering all structures is important. A house using components is fully engineered.

- Each component is designed specifically for your building.
- Each component location is defined, making components easy to use in the field.
- All the loads go where they belong. You won't have uneven floors, or windows and doors that don't close properly—*no surprises*!
- Engineering with computer software makes craftsmanship easy with components, and gives you design flexibility.

Craftsmanship through Manufacturing

A manufacturing facility creates quality components, often starting with computer-controlled saws, which make accurate compound cuts simple. All component joints fit together tightly in precision jigs. Manufacturing can also be computer-controlled, for faster setup times and efficient production.

- Weather is not a factor. Production can continue day and night, providing consistent quality.
- Material shortage delays are less likely, since the entire system is supplied in one package.
- Callbacks are reduced. Components made with dry lumber are less likely to shrink, warp, and twist.
- Components are rarely stolen from the job site.

Craftsmanship in Floor Truss Framing

- Floor trusses can be manufactured in long spans, reducing or eliminating the need for intermediate bearing walls, beams, columns or footings.
- Special bearing, cantilever and balcony details are easily built in.
- Stiffness can be designed into the floor truss, creating a more solid floor.
- Labor costs for mechanical contractors are lower.
- The open webs allow for easy passage of ducts, plumbing and electrical wires within the system. No cutting of webs is required and you don't need to fur down to hide mechanicals.
- The 3½-inch width allows for quick gluing and accurate nailing or screwing.
- Cold air returns can be eliminated by using the open web system as a plenum for air distribution.

What We Learned about Floor Framing

	Stick Frame	Component	Savings
Man-Hours to Frame	38 Hours	12 Hours	**26 Hours**
Quantity of Lumber	4,256 Bd. Ft.	3,147 Bd. Ft.	**1,109 Bd. Ft.**

What We Learned about Roof Framing

Second Floor Roof Framing	Stick Frame	Component	Savings
Man-Hours to Frame	142½ Hours	59½ Hours	**83 Hours**
Quantity of Lumber	7,210 Bd. Ft.	4,875 Bd. Ft.	**2,335 Bd. Ft.**

Great Room Roof Framing	Stick Frame	Component	Savings
Man-Hours to Frame	104 Hours	35½ Hours	**68½ Hours**
Quantity of Lumber	3,641 Bd. Ft.	2,116 Bd. Ft.	**1,525 Bd. Ft.**

Valley Framing	Stick Frame	Component	Savings
Man-Hours to Frame	9½ Hours	4½ Hours	**5 Hours**
Quantity of Lumber	692 Bd. Ft.	362 Bd. Ft.	**330 Bd. Ft.**

Environmental Responsibility

- Wood is a very environmentally responsible material to use in construction. It requires far less energy to manufacture lumber than other building materials. Nine times less energy is used to produce a 2x4 than a steel stud, and 24 times less energy is used for a wood-framed floor than a concrete floor.
- Nearly five million trees are planted every day. *Wood is the only renewable building material.*
- Wasting wood is costly. In a factory, cut-offs and short lengths can be used to the maximum, which reduces waste. Most waste wood is ground up and sold, so less goes to the landfill.

What We Learned about Job Site Waste

	Stick Frame	Component	Savings
Wood Waste @ Job Site	17 Yards	4 Yards	**13 Yards**

For a *Framing the American Dream*® video, contact:

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