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PATH
PARTNERSHIP FOR ADVANCING TECHNOLOGY IN HOUSING

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QUALITY

CYCLE TIME REDUCTION - WHAT IS A DAY WORTH?

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Builders can make real progress in reducing build cycle time by "building it the right way the first time." Cycle time reduction is a natural by-product of fewer mistakes to correct, less adjustments to make, and a streamlined construction process.

To get employees and trade contractors to understand the importance of cycle time, put it into dollars and cents. Every builder can calculate what a day is worth by looking at some key factors:

Cost of Money. Whether it is interest on a construction loan or lost investment opportunities, it takes money to build. And money costs money. For example, the cost of money for a typical home = $(\$25,000 \text{ land cost}) + (\$110,000 \text{ hard costs}/2) \times (10\% \text{ annual interest rate})/365 = \$22 \text{ per home per day}$.

Contractor Costs. Streamlined production processes allow contractors to complete jobs in less time and to produce more homes with the same crews. While material costs may not change significantly, there are substantial savings in contractor labor costs. Builders can share in the benefits. In a typical example, labor savings from being able to reduce a day from the schedule = $(\$30,000 \text{ contractor labor per home}/100\text{-day build time}) \times 50\% \text{ share of benefits} = \150 per home .

Management Costs. As problems are prevented, staffs become more efficient. Streamlined production processes reduce build time without additional management attention. In a typical example, management savings for eliminating a day from the schedule = $(\$225,000 \text{ annual production management, superintendent, and administrative salary and benefits} + \$60,000 \text{ overhead})/(20 \text{ homes per year} \times 365) = \44 per home .

Sales Opportunities. When the standard build schedule satisfies buyers who need homes quickly, new sales opportunities exist. For example, if a 100-day schedule were reduced to 90 days, the average value of removing a day from the production schedule = $(5\% \text{ additional homes sales} \times \$15,000 \text{ margin per home})/(100 \text{ day current build time} - 90 \text{ day target schedule}) = \75 per home .

The total savings in the example above is \$291 per home per day. Other builders calculate a day to be worth between \$50 and \$500 using their own data and including or excluding various factors.

What is a day worth to your company? Have a company team use the form below to perform your own calculations. Everyone will agree that removing a day from build time is very worthwhile.

CALCULATION FORM

1. Cost of Money (per home)

A. Land Cost.....	\$	_____
B. Hard Cost.....	\$	_____
C. Average Hard Cost (B ÷ 2) ¹	= \$	_____
D. Average Investment (A + C).....	= \$	_____
E. Annual Interest Rate	_____	%
F. Cost of Money Per Year (D x E).....	= \$	_____
G. Cost of Money Per Home Per Day (F ÷ 365)	= \$	_____

2. Contractor Labor Costs (per home)

A. Hard Costs	\$	_____
B. Contractor Labor Percent of Hard Costs ²	_____	%
C. Total Contractor Labor Cost (A x B).....	= \$	_____
D. Current Build Cycle Time ³	_____	days
E. Contractor Labor Cost Per Day (C ÷ D)	= \$	_____
F. Builder's Share of Benefits.....	_____	%
G. Total Value to Builder Per Home Per Day (E x F).....	= \$	_____

3. Management Costs (per home)

A. Executive Management Salaries ⁴	\$	_____
B. Construction Administration Salaries ⁴	\$	_____
C. Field Superintendent Salaries	\$	_____
D. Field Assistant Salaries.....	\$	_____
E. Total Construction Management Salaries (A + B + C + D) ..	\$	_____
F. Employee Benefits Percent of Salaries ⁵	_____	%
G. Employee Benefit Costs (E x F)	= \$	_____
H. Total Construction Management Costs Per Year (E + G)	= \$	_____
I. Number of Homes Per Year.....	_____	
J. Management Cost Per Home (H ÷ I).....	= \$	_____
K. Current Build Cycle Time	_____	days
L. Management Cost Per Home Per Day (J ÷ K)	= \$	_____

(continued on next page)

¹Divide by 2 for average value.

²Estimate 43% of hard costs (1996 Means Residential Cost Data).

³Build cycle time is typically from foundation excavation to closing.

⁴Salaries can be adjusted for a percent of time spent on construction management activities.

⁵Benefits are typically 35% of salaries.

WHAT IS A DAY WORTH?