

Business

Use Excel to Budget Next Year's Project Mix

by Joe Stoddard

For this month's column I've created the first part of an Excel-based system — a budgeting planner and break-even calculator that you can use to take some of the pain out of the yearly exercise of creating your jobs budget. Later, I'll add a way to track your actual results against the budget you set up.

To download it, go to the library in the Business Technology forum at jconline.com. Save the workbook to a safe spot on your hard drive and then make copies for your working data. If you fill in everything you can and save the workbook as an Excel template (.xltx), the bulk of the information will already be in place each time you open it. I used Excel 2007 for Windows to create the workbook. It can be modified to

work on earlier versions of Excel or other spreadsheets like Google or Excel for Mac — but for everything to function smoothly right out of the box, you'll need Excel 2007 or 2010 for Windows. There's a complete set of instructions on the first worksheet, formatted for printing out, so there's no need to repeat them here.

I've seen similar software tools created for production builders, but those don't take into account the wide variety of work the typical *JLC* reader might encounter. With this workbook, you can determine your break-even volume for the year, by first dialing in your fixed overhead and then creating a mix of the five typical income streams a small-volume contractor might have: remodeling, repair/

handyman, new homes, commercial, and "other" — things like design-only jobs or jobs where you only provide project management. Once you've entered your data, the spreadsheet uses your historical mix of work as a starting point for where you want to go in the future.

You can adjust this workbook to fit your business or draw on the Excel techniques I used to create your own workbook. Let's take a look at some sample worksheets.

Setup

The first worksheet is where you fill out your company information, but it's also a summary tool you can use "at a glance" after you've completed the other worksheets (see Figure 1). Table C, Historical

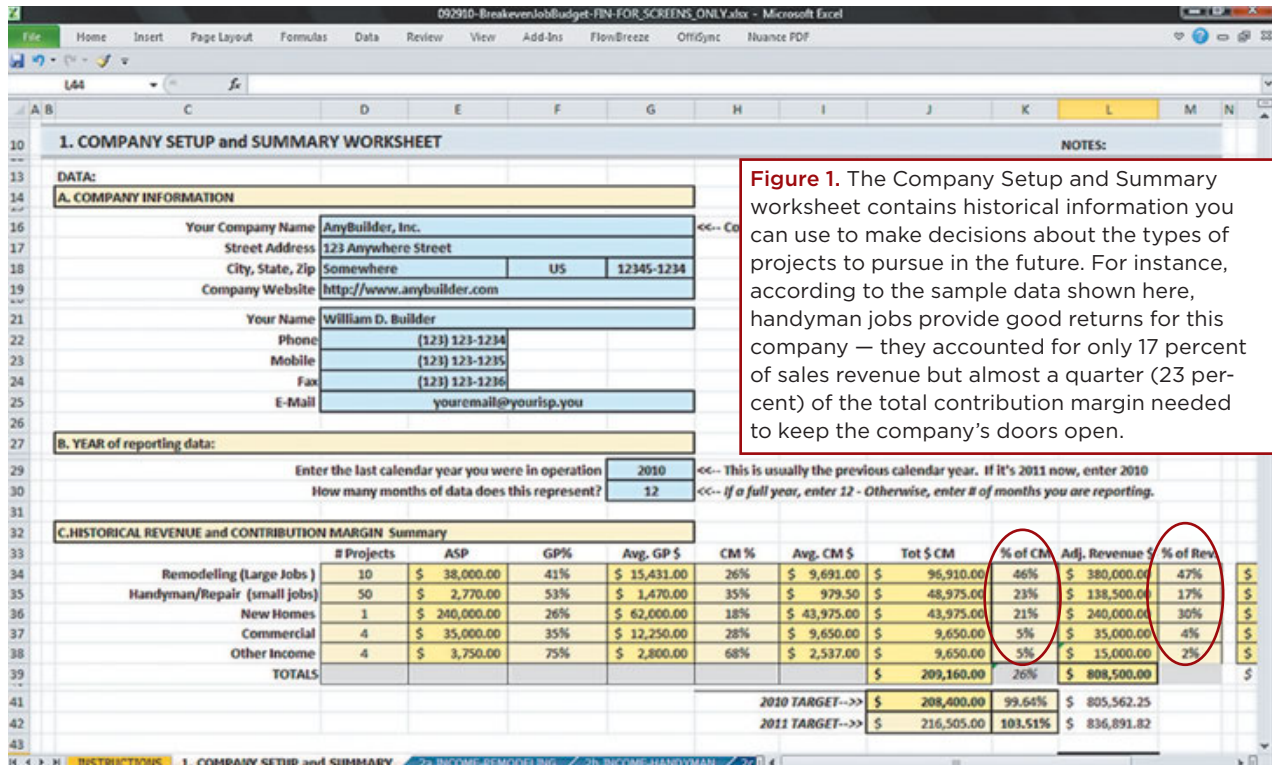


Figure 1. The Company Setup and Summary worksheet contains historical information you can use to make decisions about the types of projects to pursue in the future. For instance, according to the sample data shown here, handyman jobs provide good returns for this company — they accounted for only 17 percent of sales revenue but almost a quarter (23 percent) of the total contribution margin needed to keep the company's doors open.

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Revenue and Contribution Margin Summary, compiles the five types of income and calculates the relative percentage of each based on historical records, along with the gross profit (GP) and contribution margin (CM) percentages and dollars.

Note, for example, that handyman jobs accounted for 17 percent of the revenue but 23 percent of the contribution margin necessary to keep this company's doors open. Conversely, new homes (this company built one last year) brought in 30 percent of the gross revenue but generated only 21 percent of the contribution margin. The business might be better off forgetting about new homes and just concentrating on its handyman service and larger remodeling projects. If you were the owner, you could use the spreadsheet to examine different scenarios — for instance, you could budget no new homes for the following year and see how many more handyman jobs would be necessary to make up the difference in contribution margin.

Identifying high overhead jobs. This table also quickly shows you the average

selling price (ASP) of each type of work completed in the prior period, and the resulting gross profit and contribution margin from each. The difference between the GP and the CM represents the variable expenses associated with each type of work — supervision, sales commissions, and so forth. For example, the difference between GP and CM for large remodeling jobs is 15 percent (41 percent GP – 26 percent CM), while for commercial work it's only 7 percent (35 percent GP – 28 percent CM). That means that generating a dollar from remodeling work required more company resources than generating a dollar from commercial work.

Why? Commercial work is typically a cut-and-dried low-bid scenario, executed by managing subcontractors. There is much less “salesmanship” and supervision required. So if you're already short-handed, you might conclude that doing more commercial work in the coming year is the best way to cover your fixed overhead without having to commit more resources. This conclusion is by no means definitive, but analyzing the numbers at least gives

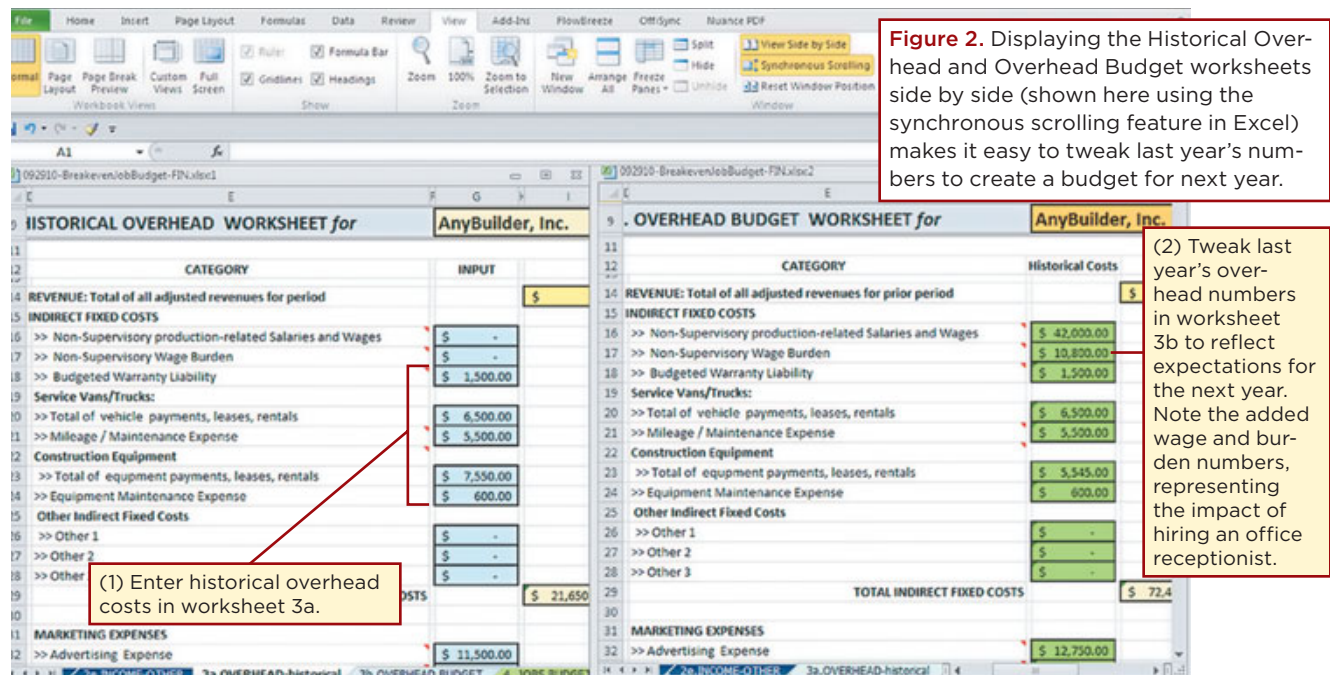
you some facts to base your decisions on, rather than going by opinion or emotion.

Entering Income

The next five worksheets — tabs 2a through 2e — will require the most elbow grease on your part. You use them to enter a historical record of the mix of projects you completed last year. You'll need to know how many projects you completed in each category, the total revenue from each, and associated direct and indirect costs. The worksheet calculates the average selling price, gross profit, and contribution margins for each category.

Most of you will mainly use the Remodeling (large job) and Handyman/Repair (small job) worksheets to enter income. It doesn't matter where you draw the line between a big job and a small job — just be consistent. Use the worksheets that represent the type of jobs you do and leave the others blank.

Setup tip. I included an account-number column on each of the income worksheets. Filling that in and saving the template will make it much easier the



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4. JOBS BUDGET WORKSHEET for		AnyBuilder, Inc. year ending 12/31 2011							
A. HISTORY: COMPLETED JOBS									
	#	ASP	GP %	Avg GP\$ per Cat.	CM %	Avg CM \$	% of CM	Tot \$ CM	% of Rev
Remodeling (Large Jobs)	10	\$ 38,000.00	41%	\$ 15,431.00	29%	\$ 9,691.00	35%	\$ 96,510.00	39%
Handyman/Repair	50	\$ 2,770.00	53%	\$ 1,470.00	35%	\$ 979.50	18%	\$ 48,975.00	14%
New Homes	1	\$ 245,000.00	31%	\$ 75,000.00	25%	\$ 60,975.00	22%	\$ 60,975.00	25%
Commercial	4	\$ 50,000.00	39%	\$ 19,250.00	29%	\$ 14,675.00	21%	\$ 58,700.00	20%
Other (Design, Proj. Management, Etc.)	4	\$ 3,750.00	75%	\$ 2,800.00	65%	\$ 2,437.50	4%	\$ 9,750.00	2%
Historical Fixed Overhead 2010		\$ 208,400.00							
N dif. History/Budget: -0.38% <<< TOTAL required TO KEEP DOORS OPEN - Historical Avg CM\$									
B. FIXED EXPENSE BUDGET: TOTAL EXPENSES									
	100%	\$ 207,600.00							
Fixed Overhead per QUARTER		\$ 51,900.00							
Fixed Overhead per MONTH		\$ 17,300.00							
C. BREAK-EVEN JOB BUDGET: CALCULATED # JOBS for NEXT BUDGET PERIOD by PROJECT TYPE									
	# Jobs	Potential CM\$							
Remodeling (Large Jobs)	8	\$ 77,528.00							
Handyman/Repair	38	\$ 37,221.00							
New Homes	1	\$ 60,975.00							
Commercial	4	\$ 58,700.00							
Other (Design, Proj. Management, Etc.)	4	\$ 9,750.00							
Total Potential CM\$		\$ 244,174.00							
Cushion +/-		\$ 36,574.00							
D. ANALYSIS : CALCULATE ADDITIONAL FACTORS; ADJUST TOTAL JOB NUMBERS; and, DISTRIBUTE COMPLETED JOBS by MONTH and									
1. FIXED OVERHEAD COSTS: HISTORICAL vs. BUDGET									
Total Fixed Overhead for Last Period (Historical)	\$ 208,400.00	2010							
Total Fixed Overhead for Next Period (Budget)	\$ 207,600.00	2011							
Change (\$) Year over Year +/-	\$ (800.00)								
% Change	-0.38%								
2. FIXED OVERHEAD for the BUDGET PERIOD:									
a. Your Total Fixed Overhead "Nut" for the next period	\$ 207,600.00								
	\$ 51,900.00								
	\$ 17,300.00								
	\$ 3,992.31								
Enter your # workdays per week	5	\$ 798.46							
Enter your # hours in a workday	8	\$ 99.81							
3. GOALS: ADDITIONAL NET INCOME REQUIRED									
	\$ 100,000.00								
a. Adjusted for Fixed OH Requirements	\$ 121,217.00								
b. Minus - Existing "Cushion" from projected volume	\$ 36,574.00								
c. This is the net CM\$ Required +/-	\$ 84,643.00								
4. FINAL CALCULATED JOB MIX by type for NEXT BUDGET PERIOD									
	2010	CM\$ Req per project type	AVE CM\$ per project type	# Jobs RAW	# Jobs Rounded	Predicted \$CM	\$ Overhang +/-		
Remodeling ->	35%	\$ 29,794.61	\$ 9,691.00	3.07	3	\$ 29,073.00	(\$ 721.61)		
Handyman/Repair ->	18%	\$ 15,057.18	\$ 979.50	15.37	15	\$ 14,692.50	(\$ 364.68)		
New Homes ->	22%	\$ 18,746.53	\$ 60,975.00	0.31	0	\$ -	(\$ 18,746.53)		
Commercial ->	21%	\$ 18,047.09	\$ 14,675.00	1.23	1	\$ 14,675.00	(\$ 3,372.09)		
Other ->	4%	\$ 2,997.60	\$ 2,437.50	1.23	1	\$ 2,437.50	(\$ 560.10)		
Totals		\$ 84,643.00							
Break-Even Additional JOB TOTALS for Next Budget Period									
Remodeling ->	8	3	11						
Handyman/Repair ->	38	15	53						
New Homes ->	1	0	1						
Commercial ->	4	1	5						
Other ->	4	1	5						
E. BUDGET: COMPLETED JOBS by MONTH									
Use the table below to spread the completed jobs listed in D. above by MONTH and by QUARTER. Remember you will not see revenue from larger jobs like new homes, larger remodeling jobs, and most commercial projects in recognized in December might have to have been sold and started in October. Each month's income must meet or exceed the									
	# Jobs Budgeted	# Jobs adjusted target	January	February	March	April			
Remodeling (lg. Jobs)	4	11	\$ 9,691.00	\$ 9,691.00	\$ 9,691.00	\$ 9,691.00			
Handyman/Repair	53	53	\$ 7,836.00	\$ 4,897.50	\$ 3,918.00	\$ 1,014.50			
New Homes	1	1	\$ -	\$ -	\$ -	\$ -			
Commercial	2	5	\$ -	\$ -	\$ 14,675.00	\$ 14,675.00			
Other	1	5	\$ -	\$ -	\$ -	\$ 2,437.50			
TOTALS for Month: Target = \$17300			\$ 17,527.00	\$ 14,588.50	\$ 28,284.00	\$ 27,783.00			
TOTALS for Quarter: Target = \$51900			\$ 60,399.50			\$ 62,065.50			

This is the total overhead you must cover to keep the doors open for the next year.

This is a suggested mix of jobs and their total contribution margins, based on historical income data and adjusted according to your break-even volume.

The "cushion" represents net profit for the volume of work you have budgeted. A cushion of zero means you are break-even; above zero, you are covering expenses and earning a profit.

This is the adjusted contribution margin above break-even that is required to meet your financial goals for the year.

The workbook uses historical percentages to suggest a mix of job types that will meet your income goals.

Spread the work by month to establish baseline income expectations.

Note that the worksheet uses conditional formatting to warn you — with red type — when you have not yet reached your budgeted income goal.

Figure 3. After you've entered income and overhead data in previous worksheets, the Jobs Budget worksheet uses your historical mix of projects along with your projected overhead and income requirements for the budget period to suggest a mix of projects for the coming year. You can then tweak the mix and spread the jobs by month and quarter to establish your income baseline.

next time you need to extract that information from your accounting system.

Calculating Overhead

The next two worksheets — tabs 3a and 3b — are for calculating your fixed overhead. Complete worksheet 3a, Overhead-Historical, to document what you actually spent during the previous period. Worksheet 3b, Overhead Budget, is a carbon copy that you can manipulate to reflect next year's budget. If you expect a category to go up or down in the coming year, adjust it in the green cells (Figure 2, page 2).

Break-Even Calculations

The Jobs Budget worksheet — tab 4 — brings it all together; it's where you determine a month-by-month project revenue budget (Figure 3, page 3). Note that we're showing revenue in the month it's recognized; jobs that take longer than a month have to be sold and started long before you show the revenue.

Sections A and B are fed from the income and overhead worksheets. Section C suggests a mix of job types that will satisfy your overhead; the number of each job type is based on company history. Again, as you budget you can either accept last year's numbers or tweak them in the green cells.

If you think you'll see major changes in the mix of work for the next year — like dropping large-project remodeling altogether and tripling your handyman operation — don't tweak anything here. Instead, save a copy of the entire workbook so that you preserve your historical data, and then modify the income worksheets in the copy to reflect the mix of work you're expecting for the coming year.

Planning for profit. Section D is where the rubber meets the road. D1 simply compares your overhead from last year with

	# Jobs Budgeted	# Jobs adjusted target	Q1				Q2				
			April	May	June	July	August	September			
Remodeling (Sp. Jobs)	4	11	1	0	0	0	0	0	0	0	0
Handyman/Repair	55	57	1	0	0	0	0	0	0	0	0
New Homes	1	7	0.1	0.2	0.25	0.35	0.1	0	0	0	0
Commercial	2	0	0	0	0	0	0	0	0	0	0
Other	1	5	1	0	0	0	0	0	0	0	0
Total											
Inc: Target = \$54126.25			\$ 12,195.00	\$ 49,526.25	\$ 21,941.25	\$ 6,897.50	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Figure 4. Income from long jobs like new homes should be entered using percentages that match your draw schedule. In this example, April shows a 10 percent down payment (.1), with draws of 20 (.2), 25 (.25), and 35 (.35) percent in May, June, and July, and a final completion payment of 10 percent in August.

overhead for the next budget period. The spreadsheet uses conditional formatting to let you know whether your overhead is on the rise or staying under control.

D2 expands on the scheduling I discussed in September. It shows how much overall contribution margin you need to generate hourly, daily, weekly, and so on to keep the doors open. D3 is where you enter your income goal over and above your break-even point — the profit you're looking for after you've covered expenses and paid yourself a reasonable salary. D4 calculates a suggested mix of additional jobs required to cover the additional income you entered above. Again, you can tweak these in the green cells if you like.

Once you're satisfied with the mix and number of jobs for the coming year, use table E — Budget: Completed Jobs by Month — to spread the work across the coming period. If a month or quarter winds up short of the contribution margin needed to meet your income requirements, the cells will turn red to show you exactly where the problems are. Spread your calculated workload in a way that makes sense for your company's production capacity. In other words, don't enter 30 repair jobs all in one week if you only have one handyman.

Dealing with long jobs. One thing I need to emphasize is that this workbook calculates *recognized* income. That's different from when you sell or start jobs. Big jobs like room additions, custom kitchens, and new homes are not going to provide the total of their contract revenue in the month you sold the job. To deal with that in table E, simply enter the job income as fractions (Figure 4). If you budgeted one

new home that will be started in April and will take five months, don't put a "1" in August; instead, enter fractions in the preceding months that match your draw schedule.

Playing "What If?"

This workbook is also an excellent analysis tool. Let's say that at your current markup and average selling price, the workbook says you need to complete 12 remodeling jobs (one per month). But you know that one completion every two months is the most you can do, so you have some decisions to make. You could raise your average selling price (and profit margins) or lower your direct costs or overhead. Or perhaps you'll choose to make up that revenue with some other kind of work, like commercial, that doesn't require as much direct oversight. You may look at doing a spec house. The spreadsheet lets you quickly perform these "what if?" comparisons. What if you did more remodeling and built fewer new homes? What if you hired another full-time employee?

That flexibility is what makes spreadsheets such fantastic planning tools. You're not locked into what some software developer thought you were going to need; you can tailor the worksheets to your own business.

Using templates. And remember, any time you create a version of the workbook with different data or a different configuration that you might want to use again, be sure to make a template.

JLC contributing editor **Joe Stoddard** moderates the *Business Technology* forum at jlconline.com.