CHAPTER

9

Managing General Overhead Costs

In this chapter you will learn how to prepare a general overhead budget that is used to track overhead costs. It is easy for a company to squander its profits by failing to control general overhead costs. Construction managers often spend enormous amounts of time and effort budgeting, tracking, and controlling construction costs while ignoring general overhead costs. Just as a project manager or superintendent tracks and manages construction costs on a project, the general manager or owner needs to track and manage the general overhead costs. The key to doing this is to set and follow a general overhead budget. A general overhead budget is also needed to prepare the company's annual cash flow projection, which is discussed in Chapter 14.

It is not uncommon for a construction company to spend 10 to 25% of its revenues on general overhead while retaining less than 5% of its revenues as profit. In Chapter 6 we saw that the average commercial construction company spent 83% of its revenues on direct and indirect construction costs, leaving 17% to cover overhead, pay taxes, and provide a profit for the owners. With the average commercial construction company earning less than 5% profit before taxes, the difference of 12% is consumed as general overhead; in other words, over two-thirds of the gross profit from the jobs is used to pay for the general overhead. Because general overhead costs are a major expense to a construction company, construction managers should manage the general overhead costs just as they would direct and indirect construction costs.

What Is General Overhead?

General overhead consists of those costs that cannot be specifically identified to the completion of a construction project. General overhead may also be referred to as indirect costs. General overhead includes all main office and supervisory costs that cannot be billed to a specific construction project. General overhead costs are controlled on a companywide basis. The responsibility for controlling these costs falls on the owner of the construction company or the company's general manager.

When preparing bids for construction projects all direct costs and project overhead should be included as line item costs in the bid or project's budget. The budget for these costs can then be monitored and tracked during the course of the project. With computerized accounting systems it is easy to bill materials, equipment, and labor—including burden—costs to specific construction projects. Each bid should include a markup for profit and overhead. This markup is used to cover the general overhead for the construction company and provide the company with a profit. The profit and overhead markup should not be used to cover project overhead costs. The profit and overhead markup is discussed in Chapter 10.

The difference between a project overhead and general overhead may vary from project to project based on what is billable to the project's owner under the construction contract with the owner. For example, one contract may specifically allow the construction company to bill the cost of the project manager to the project, whereas another may specifically prohibit it and require that the project manager be paid out of the profit and overhead markup. This is very important to the construction company that is engaged in a cost-plus contract. If the project manager is included as part of the project overhead, the construction company can be reimbursed for the costs of the project manager by billing the cost of the project manager to the project. Whereas if the project manager is considered part of the general overhead, the construction company must pay the cost of the project manager out of the profit and overhead markup for the project. The profit and overhead markup is the source of the gross profit discussed in earlier chapters.

The General Overhead Budget

Because both profit and general overhead come out of the gross profit, the smaller the overhead costs, the greater the profit. To control these costs, a budget should be prepared for the general overhead and the general overhead costs should be tracked, just as one prepares budgets for and tracks direct and indirect construction costs for each project. The general overhead budget is a plan of all expenditures for the company that cannot be billed to a construction project. The general overhead budget should be used when making day-to-day decisions that involve the expenditure of company funds. The preparation and use of a general overhead budget helps to control general overhead costs and thereby increase profits. Experience has shown that companies that use sound budgeting principles to manage their general overhead are more profitable than companies that do not. Use of a general overhead budget requires daily vigilance, vigilance that many construction companies fail to exercise.

General overhead budgets may be prepared for two specific reasons: projection of cash needs and projection of profits. The difference in these two general overhead budgets is in how we handle capital costs and loans.

When preparing a general overhead budget for projection of the company's cash needs, we want to include the actual cash flows for all capital assets and loans. For example, if a company purchased a $25,000 truck for use by the general

manager and paid cash for the truck, the company would see a cash expenditure of $25,000 during the budgetary period and the company would have to have sufficient cash to cover this expenditure. If the company were to purchase this same truck with a five-year loan, the expenditure for the truck would be spread out over five years and the required cash would be divided into sixty monthly payments instead of occurring in a single budgetary period. In this case, the goal is to project the actual cash flows so that management can make sure that the company has adequate cash to fund its overhead.

When preparing a general overhead budget for use in projecting a company's profit, a company needs to recognize that capital assets have a value that often extends beyond the period in which the cash flows associated with its purchase occur. For capital assets, the cost of producing the revenues that result in profits is not the cash flow associated with the capital asset but the loss in value of the asset. This loss in value is known as depreciation. Rather than including the cash flow associated with the capital asset in the budget, the budget must include the depreciation of the asset. In the case of the aforementioned truck, the truck will be consumed or depreciated at the same rate regardless of whether it was purchased outright or purchased through a loan. Additionally, the only portion of a loan payment that would be included in the budget is the portion that goes toward paying the interest. The payment of the principal is just using an asset (cash) to reduce a liability (loan balance). In Chapter 10 we use this type of general overhead budget to analyze the relationship among the volume of work, the profit margin, and the general overhead.

Items to Include in the General Overhead Budget

Like a project budget, the general overhead budget should be broken down into a number of categories. There are three things to keep in mind when deciding what details to include in the general overhead budget. First, the budget should have enough detail to allow management to track and manage costs. If the general overhead budget lacks sufficient details it is difficult to know where the money is being spent and to identify what expenses management needs to watch more carefully to better control costs. Second, the budget should not have so much detail that management spends a lot of extra time and effort tracking costs or gives up trying to track costs because it is too difficult. Often it is not worth the effort to bill out office employees to different budget line items according to the task they are doing at the moment. Office labor costs are often combined into a single budgetary category. For example, if management is going to budget $500 of office labor to prepare a direct mail advertisement, management needs to be able to track these costs and bill them against the budget for advertising. If management is not going to track and bill these costs to the advertising budget then these costs should be lumped together with other office employees' expenses. Third, the budget needs to provide the information necessary to prepare financial statements and income tax returns. For income tax purposes, meals and entertainment are

treated differently from other general overhead expenses and as a result should be tracked separately so that the information is readily available. It is a good idea to include a company's tax advisor in the selection of general overhead categories.

The categories included in a general overhead budget will vary from company to company. Small companies often have much simpler general overhead budgets than larger companies. The following is a list of items that could be included in a general overhead budget:

Advertising: Advertising includes all costs to market the construction company through printed materials, such as trade journals and newspapers, and direct mail. These costs should include the design and preparation of advertising materials, printing, postage, and the cost of ad space. It may also include signage for trucks and projects. When project signage is specific to a single project, it should be billed to the project rather than to the general overhead. Advertising for employees should be included in the Employee Recruiting line item.

Bad Debts: Bad debts include the writing off of bad debts. For companies that do a lot of one-time work for many different owners—such as an HVAC construction company that does residential system replacements and services—the budget cost for this category could be a significant amount. The cost of lawyers and collection agencies used in the collection process is included in the Legal and Professional Services line item.

Bank Fees: Bank fees include all fees charged by the bank to provide banking services and include returned check fees.

Car and Truck Expenses: Car and truck expenses should include all vehicle costs associated with office and general management personnel. The car and truck expenses associated with employees working on the construction projects should not be included in the general overhead budget but should be billed to the construction projects. Car and truck expenses include taxes, insurance, parking, tires, fuel, maintenance, and repairs for the vehicles. When preparing a budget for use in projection of a company's cash requirements, car and truck expenses should include all lease payments, loan payments, and the purchase price of any vehicle that is purchased outright. When preparing a budget for the purpose of projecting profit, the lease payments, loan payments, and the purchase price are included in the Depreciation and the Interest Expense line items rather than in Car and Truck Expenses.

Charitable Contributions: Charitable contributions are any donations that are donated to a qualified organization. Qualified organizations include churches, nonprofit schools and hospitals, public parks and recreation facilities, and other nonprofit charitable organizations.[35]

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[35]See IRS, *Charitable Contributions*, Publication 526.

Charitable donations may be in the form of cash or property. For a construction company, the cost of labor and material donated to qualified charitable organizations to renovate office space may be deductible. Charitable contributions must be tracked separately because there may be limits to their tax deductibility.

Computer and Office Furniture: When preparing a budget for use in projection of a company's cash requirements, computer and office furniture should include all costs associated with the purchase or lease of personal property used in the main office. Computer and office furniture used at jobsites should be billed to the construction projects. When preparing a budget for the purpose of projecting profit, these costs are included in the Depreciation line item.

Depreciation: When preparing a budget for the purpose of projecting profit, depreciation includes the depreciation of vehicles, computer and office furniture, and the office building. When preparing a budget for use in projection of a company's cash requirements, depreciation is replaced with the actual cash flow resulting from the purchase of capital assets. The cash flows are placed on the appropriate budget line item and the depreciation line is zero.

Dues and Memberships: Dues and memberships include the fees paid to professional organizations, such as the Associated General Contractors and Associated Builders and Contractors.

Employee Wages and Salaries: Employee wages and salaries should include all wages and salaries paid to office and general management personnel. For hourly personnel, this should include any overtime at time-and-a-half or other required rate. Performance, Christmas, and other bonuses should be included in this item. Pay for sick leave and vacation may be included in employee wages and salaries or may be included as an employee benefit. For tax purposes, employee benefits and retirement should be budgeted and tracked separately. The wages for employees who work on construction projects should be billed to the project.

Employee Benefits: Employee benefits should include all "bona fide" fringe benefits paid to office and general management personnel except pension and profit-sharing plans. Benefits include life insurance, health insurance, vacation, holidays, sick leave, and dependent care assistance programs. The cost of sick leave and vacation may be included in employee wages and salaries rather than employee benefits. Matching costs paid by the employee should not be included in this line item because they are deducted from the employees' wages, which are included in the Employee Wage and Salaries line item. The costs of employee pensions and profit-sharing programs should be budgeted and tracked separately for tax purposes. The benefits for employees who work on construction projects should be billed to the project,

which can be easily accomplished with many construction accounting systems.

Employee Retirement: Employee retirement should include all costs associated with providing pensions and profit-sharing plans—401(k) plans—to office and general management personnel. This should not include any funds paid by the employees into retirement accounts because they are deducted from the employees' wages. Pension and profit-sharing plans for employees who work on construction projects should be billed to the project, which can be easily accomplished with many construction accounting systems.

Employee Recruiting: Typical employee recruiting costs include the cost of newspaper and other advertising to find employees and hiring personnel agencies and other costs incurred during the hiring process. Meals and travel associated with the hiring process should be budgeted under the Meals and Entertainment and the Travel line items, respectively.

Employee Training: Employee training should include the cost of seminars and classes used to improve the employees' skills. Meals and travel associated with the training should be budgeted under the Meals and Entertainment line item and Travel line item, respectively.

Employee Taxes: Employee taxes should include all taxes paid by the employer for office and general management personnel. The taxes include social security, Medicare, state unemployment tax (SUTA), and federal unemployment tax (FUTA). This should not include social security, Medicare, federal withholding, and state withholding taxes paid by employees because they are deducted from the employee's wages. Employee taxes for employees who work on construction projects should be billed to the project, which can be easily accomplished with many construction accounting systems.

Insurance: Insurance includes general liability insurance, key man life insurance policies (life insurance on key employees where the company is the beneficiary), workers' compensation insurance, and other insurance not covered elsewhere. Vehicle insurance should be included in the Car and Truck Expense line item and insurance provided as an employee benefit should be included in Employee Benefits line item.

Interest Expense: When preparing a budget for the purpose of projecting profit, interest expense includes the interest on loans. When preparing a budget for use in projection of a company's cash requirements, interest expense is replaced with the actual cash flow resulting from the purchase of capital assets. The cash flows are placed on the appropriate budget line item and the interest expense line is zero.

Janitorial and Cleaning: Janitorial and cleaning include the cost of regular cleaning services. It also includes the occasional cleaning of the carpets and other infrequent cleaning costs.

Legal and Professional Services: Legal and professional services include the cost of legal services used in the set up of the company, collection of bills, review of contracts, dealing with lien rights, and other legal matters. It also includes professional accounting services used in the preparations of financial statements, preparations of taxes, set up and review of accounting systems, and bookkeeping services. It also can include fees paid to professional engineers and architects that cannot be billed to a construction project.

Meals and Entertainment: Meals and entertainment must be tracked separately because it is only partially deductible for tax purposes. If your company pays for meals and entertainment that is not deductible for tax purposes, you may want to divide this line item into two groups, one for partially deductible meals and entertainment and one for nondeductible meals and entertainment. Meals that are partially deductible may include meals that are associated with business and are consumed in the presence of a company employee.[36]

Office Supplies: Office supplies include consumable supplies used by office and general management personnel, such as paper, printer cartridges, pens, and so forth. Office supplies used by employees working on construction projects should not be included in the general overhead budget but should be billed to the construction projects.

Office Purchases: When preparing a budget for use in projection of a company's cash requirements, office purchases should include all loan payments and the purchase price of any office space that is purchased outright. When preparing a budget for the purpose of projecting profit, these costs are included in the Depreciation and Interest Expense line items. Real-property office space—for example, a nearby office building or home—that is obtained, used, and disposed of for a single construction project should be billed to the construction project. Personal property office space—for example, a trailer—used on construction projects should be billed to the construction project in the same way that equipment is billed to the project.

Office Rent: Office rent should include the cost of all rented office space, except office space that is obtained for a single construction project, which should be billed to the construction projects.

Office Utilities: Office utilities include water, sewer, natural gas, electricity, garbage collection, and other utility costs associated with the main office

[36]See IRS, 1040 *Instructions for Schedule C—Profit or Loss From Business*, 2006, p. C-6.

or that cannot be billed to a construction project. The cost of telephone services is included in the Telephone line item.

Postage and Delivery: Postage and delivery include the cost of postage, overnight mail, and other delivery services that are not billed to a construction project. Where appropriate these costs should be billed to a construction project.

Promotion: Promotion includes items given away to promote the company, such as hats, shirts, and cups printed with the company's name and logo.

Publications and Subscriptions: Publications and subscriptions include the cost of trade magazines and newspapers used to keep the company's staff up-to-date with respect to potential projects and with other changes in the industry. This also includes newspapers and publications used in the waiting area.

Repairs and Maintenance: Repairs and maintenance include the cost of maintaining office facilities and the associated capital equipment—computers and furnishings—covered under the general overhead budget. The cost of vehicle maintenance is included in the Car and Truck Expense line item.

Taxes and Licenses: Taxes and licenses include property taxes, business licenses, and other government-mandated permits required to operate a business.

Telephone: Telephone includes the cost of telephone services, long-distance services, mobile phones, and radios that are not billed to a construction project.

Travel: Travel includes the cost of lodging and transportation for office and general management personnel while they are away from the office. It includes the costs associated with rental cars and mileage reimbursement but does not include the costs associated with company-owned vehicles inasmuch as their costs are included in the Car and Truck Expense line item.

Unallocated Labor: Unallocated labor includes the costs of employees who normally work on a construction project but are not billable to a construction project.

Unallocated Materials: Unallocated materials include the costs of materials that are purchased for construction projects but are not billable to a construction project. This includes inventory shrinkage.

Miscellaneous: Miscellaneous includes all costs not included elsewhere. This line item should be used for infrequent or unusual costs; otherwise, a new cost category should be set up for the costs.

After preparing a budget, a list of what is included in each budget line item should be prepared to help make sure that the costs are billed to the appropriate budget line item. Failure to be consistent during the budget and billing processes quickly renders the budget useless as a management tool.

Estimating General Overhead

Estimating general overhead requires management to project today what expenses are going to occur in the future. The best sources of data for future costs are historical costs; however, these costs must be adjusted to take into account the uniqueness of each year's financial objectives. For example, if the company is going to expand its business next year, the general overhead budget needs to be adjusted to take into account the expansion of the business. The general overhead budget should be compatible with the company's goals or it is useless. The projected costs should also be adjusted for inflation and changes in the market. For example, if the trend in the market is to provide employees with health insurance—which a company has not provided in the past—it may need to add the cost of health insurance into its budget to remain competitive with the market and retain its employees. Alternately, if the company has paid for its employees' health insurance it would need to increase the budget line item for health insurance to reflect the increasing cost of health insurance. Historical costs are easily obtained from past accounting reports.

> **Example 9-1:** Determine the annual budget for office utilities using the data from the past twelve months shown in Figure 9-1. Utility costs are expected to increase by 5% per year due to inflation. None of the company's goals are expected to affect the utility costs.
>
> **Solution:** The total cost of utilities for the past twelve months was $1,745.59. Increasing this by 5% we get $1,833. For budgetary purposes we round this to $1,850.

To accurately project and control costs, the general overhead budget must be estimated line by line. By doing this managers are forced to look at each line item and estimate how their goals, the market conditions, and inflation affect each line item. This results in a more accurate budget, which makes tracking the budget more meaningful. Additionally, this process forces the manager to look at how each of the company's goals affect the day-to-day operations of the company and helps the manager clarify what is required to achieve each of the goals. For example, if the company is going to expand its business, will this require the company to increase its office support staff and as a result increase its office space requirements? This also allows the manager to identify the costs associated with each goal and allows the manager to determine if the goal is worth the cost. For example, if the company needs to move its office to a new building to accommodate the increase in office staff that is necessary to support the goal of expansion, when preparing the general overhead budget the manager has the opportunity to determine if expansion of the business is worth the cost of relocating the business.

Many companies will benefit by breaking down the annual general overhead budget into monthly overhead budgets. This provides monthly milestones

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EXPENSE REPORT

From 12/1/03 to 11/30/04

Ck Num	Date	Payee	Account	Amount
5068	01/14/04	Gas Company	Office Utilities	137.18
5069	01/14/04	Power Company	Office Utilities	66.44
5079	02/13/04	Gas Company	Office Utilities	190.35
5080	02/13/04	Power Company	Office Utilities	66.05
5088	03/12/04	Gas Company	Office Utilities	162.82
5089	03/12/04	Power Company	Office Utilities	66.47
5099	04/09/04	Gas Company	Office Utilities	128.17
5101	04/09/04	Power Company	Office Utilities	53.18
5113	05/15/04	Power Company	Office Utilities	56.50
5115	05/15/04	Gas Company	Office Utilities	96.71
5123	06/09/04	Power Company	Office Utilities	48.54
5124	06/09/04	Gas Company	Office Utilities	55.40
5137	07/14/04	Power Company	Office Utilities	62.66
5138	07/14/04	Gas Company	Office Utilities	46.44
5147	08/06/04	Gas Company	Office Utilities	28.35
5148	08/06/04	Power Company	Office Utilities	69.02
5162	09/09/04	Power Company	Office Utilities	64.42
5163	09/09/04	Gas Company	Office Utilities	31.24
5179	10/16/04	Gas Company	Office Utilities	33.46
5182	10/16/04	Power Company	Office Utilities	57.39
5234	11/05/04	Gas Company	Office Utilities	39.48
5235	11/05/04	Power Company	Office Utilities	51.02
5244	12/10/04	Gas Company	Office Utilities	65.84
5248	12/10/04	Power Company	Office Utilities	68.46
			Total	1,745.59

FIGURE 9-1 Past 12 Months' Costs

that the manager can measure performance against, rather than waiting until the end of the year. When preparing a monthly budget one cannot simply allocate the annual budget equally over twelve months because many of the costs occur quarterly or annually. For example, association dues are often only paid annually. If we allocated the annual budget for the dues paid to an association equally over twelve months, during the months prior to the payment of the dues

there would be an excess of funds in the budget. However, starting with the month that the dues are paid the line item would be over budget for the remainder of the year.

Types of Costs

Overhead costs may be divided into three types of costs: variable costs, fixed costs, and mixed costs. Variable costs are those costs that tend to vary with the volume of work, which is most commonly expressed as a percentage of the revenues from construction projects. For example, for a residential remodeling construction company that pays its sales force a commission in the form of a percentage of sales, the commission paid to the sales force would be a variable cost. The relationship between cost and revenues for variable costs is shown in Figure 9-2.

Fixed costs are those costs that tend to be fixed over a specific range of revenues. For example, if a company currently has two salaried employees working as estimators, the cost of these employees is fixed over the volume of work that can be won by these employees. Another example of this is if a company currently has two office employees and rents office space that can accommodate three employees. The cost of office rent is fixed unless the volume of work increases such that the company needs to hire two more office employees. Here the office rent is fixed over the range of revenues that may be supported by three or less office employees. If the company rented an adjacent office to increase its office space to handle six employees because of an increase in the volume of work, the new cost of office rent would be fixed over the range of revenues that may be supported by four to six employees. Hence, fixed costs increase in steps with each step representing the fixed cost for a range of revenues. The relationship between cost and revenues for fixed costs is shown in Figure 9-3.

Figure 9-2 Variable Cost

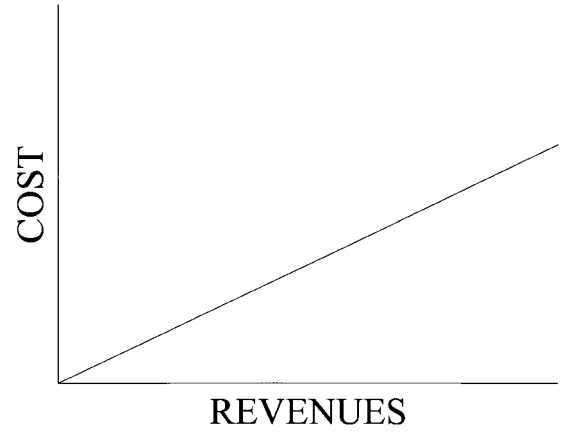
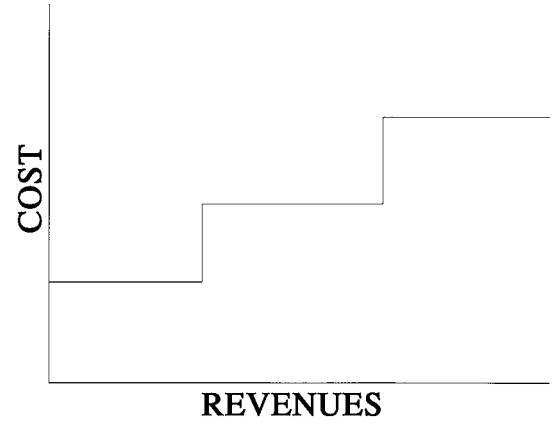


FIGURE 9-3 Fixed Cost

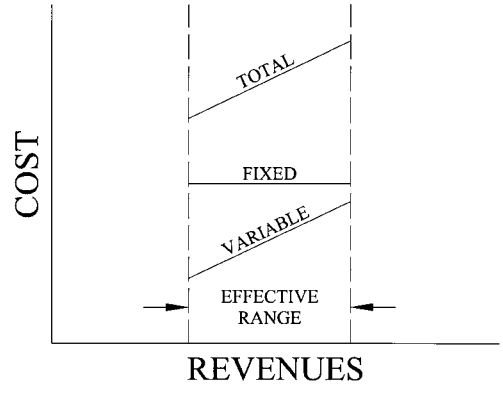


Mixed costs are costs that contain both a variable cost component and a fixed cost component. For example, if a company paid its estimators a base salary plus a bonus based on the volume of work won, the cost of the estimators is a mixed cost. The salary is a fixed cost, whereas the bonus is a variable cost. The relationship between cost and revenues for mixed costs is shown in Figure 9-4.

Because variable and mixed costs vary with the volume of work and the fixed costs are for a specific range of work volume, the general overhead budget must be prepared for a specified volume of work. When the volume of work changes, the general budget must be adjusted accordingly.

When multiple years of data are available trend analysis may be used to project future costs. Trend analysis involves determining the annual inflation rate (f) and an initial cost that represents the growth of costs over the years represented by the data using regression, with exponential regression being the most common. Exponential regression is used to determine the exponential curve that best fits the actual data. Appendix C discusses the procedures for performing trend analysis using exponential regression. Because the exponential curve does not necessarily pass through each point, the initial cost calculated by regression is

FIGURE 9-4 Mixed Cost



often different than the initial cost from the actual data. Future costs may then be projected by using the following equation:

$$\text{Cost}_n = \text{Cost}_0(1 + f)^n \tag{9-1}$$

Cost_0 = Initial Cost

f = Annual Inflation Rate

Example 9-2: Determine the projected costs for utilities in year 10. The inflation rate has been determined to be 0.193 (19.3%) and the initial cost is $1.013.

Solution: The expected cost in year 10 is calculated using Eq. (9-1) as follows:

$$\text{Cost}_n = \$1.013(1 + 0.193)^{10} = \$5.916$$

Sample of a General Overhead Budget

Now we are ready to prepare a complete general overhead budget.

Example 9-3: Prepare a general overhead budget for a company given the following. The company's revenues are shown below.

Month	Revenues ($)	Month	Revenues ($)
Jan.	768,000	July	500,000
Feb.	712,000	Aug.	391,000
March	785,000	Sept.	342,000
April	769,000	Oct.	460,000
May	560,000	Nov.	492,000
June	545,000	Dec.	516,000

The advertising budget is to be 1% of revenues. The budget for promotions is to include $8,000 in July for a company picnic, $5,000 in December for Christmas cards and gifts, and $10,000 in December for a company Christmas party. The company leases two vehicles for $350 per month per vehicle. The monthly fuel and maintenance cost for these vehicles is estimated to be $200 per month per vehicle. In July, the company plans on purchasing a new computer system for $18,000.

The company employs five workers: the owner, a project manager/estimator, a secretary/receptionist, a bookkeeper, and an accounting clerk. The owner is paid $10,000 per month. The project manager/estimator is paid $5,000 per month. The secretary/receptionist is paid $12.00 per hour and works an average of 42 hours per week. The bookkeeper is paid $18.00 per hour and works an average of 45 hours per week. The accounting clerk is paid

$9.00 per hour and works an average of 42 hours per week. All of the hourly employees are paid for 52 weeks per year. Time-and-a-half must be paid to hourly employees for work over 40 hours per week. The company contributes $150 per month per employee—including the owner—for health insurance. It also deposits 50 cents into an employee's 401(k) account for every dollar the employee deposits. The maximum the company would deposit is 3% of an employee's wages. This match includes the company's owner. Historically, the employees have taken full advantage of this benefit. The current social security rate is 6.2% to $97,500 of wages per employee. The current Medicare rate is 1.45%. The company's FUTA rate is 0.8% on the first $7,000 of wages per employee and the SUTA rate is 2% on the first $22,000 of wages per employee.

The company is charged 0.5% of revenues, 1% of wages for hourly employees, and 3% of wages for salaried employees for general liability insurance. In January the company pays $100 for a business license. It is anticipated that office supplies will cost $500 per month. Rent for the office space is $500 per month. Office utilities are expected to run $50 per month for water and sewer; $250 per month for power in June, July, and August and $150 per month during the remaining months of the year; and $150 per month for natural gas during November, December, January, and February and $50 per month during the remaining months of the year. It is anticipated that the company will spend $100 per month for postage and $100 per week for janitorial services. The estimated telephone costs are $200 per month for telephone and long-distance service and $240 per month to provide mobile phone service for the salaried employees. In December the company plans on making a $3,000 charitable contribution to a local food bank. In April the company must pay $1,500 for its annual plan-room membership. The company plans on spending $1,000 at the first of each quarter for accounting services to close the previous quarter's books and an additional $2,000 in April for tax services. The estimated cost of meals and entertainment is $200 per week. Bank fees are $50 per month. Allow $100 per month for miscellaneous expenses. Assume that all of the months are the same length—four and one-third weeks.

Solution: The budget is grouped by the categories found earlier in this chapter.

The monthly budget for advertising is 1% of revenues. January's budget for advertising is calculated as follows:

$$\text{Advertising}_{\text{Jan}} = \$768{,}000(0.01) = \$7{,}680$$

The advertising budget for the remaining months of the year is calculated in a similar manner. The monthly budgets are shown in Table 9-1.

The promotional budget for July is $8,000 and for December is $15,000 ($5,000 + $10,000). The promotional budget for the remaining months of the year is zero. The annual promotional budget is $23,000.

The monthly budget for car and truck expenses includes the lease payment and the fuel and maintenance costs. The monthly budget for car and truck is $1,100 ($350 + $350 + $200 + $200). The annual budget for car and truck expenses is $13,200.

TABLE 9-1 Advertising Budget

MONTH	BUDGET ($)	MONTH	BUDGET ($)
Jan.	7,680	July	5,000
Feb.	7,120	Aug.	3,910
March	7,850	Sept.	3,420
April	7,690	Oct.	4,600
May	5,600	Nov.	4,920
June	5,450	Dec.	5,160
		Total	68,400

July's budget for computer and office furniture is the cost of the computer system or $18,000. The budget for the remaining months is zero.

The monthly budget for employee wages and salaries are the same for each month because of the assumption that all months are equal. For hourly employees time-and-a-half is paid for work over 40 hours per week. The monthly wages for the secretary/receptionist are as follows:

$$\begin{aligned} \text{Wages}_{\text{Jan-Dec}} &= \$12/\text{hour}(40\ \text{hours/week})(52\ \text{weeks}/12\ \text{month}) \\ &\quad + \$12/\text{hour}(1.5)(2\ \text{hours/week})(52\ \text{weeks}/12\ \text{month}) \\ \text{Wages}_{\text{Jan-Dec}} &= 2{,}236 \end{aligned}$$

The monthly wages for the bookkeeper are as follows:

$$\begin{aligned} \text{Wages}_{\text{Jan-Dec}} &= \$18/\text{hour}\ (40\ \text{hours/week})(52\ \text{weeks}/12\ \text{month}) \\ &\quad + \$18/\text{hour}(1.5)(5\ \text{hours/week})(52\ \text{weeks}/12\ \text{month}) \\ \text{Wages}_{\text{Jan-Dec}} &= \$3{,}705 \end{aligned}$$

The monthly wages for the accounting clerk are as follows:

$$\begin{aligned} \text{Wages}_{\text{Jan-Dec}} &= \$9/\text{hour}\ (40\ \text{hours/week})(52\ \text{weeks}/12\ \text{month}) \\ &\quad + \$9/\text{hour}(1.5)(2\ \text{hours/week})(52\ \text{weeks}/12\ \text{month}) \\ \text{Wages}_{\text{Jan-Dec}} &= \$1{,}677 \end{aligned}$$

The monthly budget for employee wages and salaries is as follows:

$$\begin{aligned} \text{Wages}_{\text{Jan-Dec}} &= \$10{,}000 + \$5{,}000 + \$2{,}236 + \$3{,}705 + \$1{,}677 \\ &= \$22{,}618 \end{aligned}$$

The annual budget for employee wages and salaries is $271,416.

The only employee benefit is the company's contribution to health insurance at $150 per month per employee—including the owner. The monthly budget for employee benefits is $750, and the annual budget is $9,000.

The maximum monthly payment for employee retirement is 3% of wages or $679 ($22,618 × 0.03) per month. Because the employees have historically taken full advantage of this benefit, the monthly budget should be equal to the maximum monthly payment. The annual budget for employee retirement is $8,148.

The budget for employee taxes includes social security, Medicare, FUTA, and SUTA. The company pays 6.2% on the first $97,500 of each employee's wages. The employees making $8,125 ($97,500/12) per month or less do not reach the social security limit and the amount of social security is the same for all of the months. Only the owner makes more than $8,125 per month. During the tenth month—October—the owner's wages exceed the social security limit. The social security paid by the company on the owner's wages is calculated as follows:

$$\text{Social Security}_{\text{Jan-Sept}} = \$10{,}000(0.062) = \$620$$
$$\text{Social Security}_{\text{Oct}} = [\$97{,}500 - \$10{,}000(9)]0.062 = \$465$$
$$\text{Social Security}_{\text{Nov-Dec}} = \$0$$

The social security tax is calculated in the same manner for the remaining employees. The social security taxes for the year are shown in Table 9-2.

The company pays 1.45% on all wages for Medicare. The Medicare taxes paid by the company are calculated as follows:

$$\text{Medicare}_{\text{Jan-Dec}} = \$22{,}618(0.0145) = \$328$$

The company pays 0.8% on the first $7,000 of each employee's wages for federal unemployment tax (FUTA). The employees making $583.33 ($7,000/12) per month or less do not reach the FUTA limit and the amount of FUTA is the same for all of the months. All employees make more than $583.33. During the first month—January—the owner's wages exceed the FUTA limit. The FUTA paid by the company on the owner's wages is calculated as follows:

$$\text{FUTA}_{\text{Jan}} = \$7{,}000(0.008) = \$56$$
$$\text{FUTA}_{\text{Feb-Dec}} = \$0$$

TABLE 9-2 Social Security Taxes

MONTH	OWNER ($)	ESTIMATOR ($)	SECRETARY ($)	BOOK. ($)	CLERK ($)	TOTAL ($)
Jan.	620	310	139	230	104	1,403
Feb.	620	310	139	230	104	1,403
March	620	310	139	230	104	1,403
April	620	310	139	230	104	1,403
May	620	310	139	230	104	1,403
June	620	310	139	230	104	1,403
July	620	310	139	230	104	1,403
Aug.	620	310	139	230	104	1,403
Sept.	620	310	139	230	104	1,403
Oct.	465	310	139	230	104	1,248
Nov.	0	310	139	230	104	783
Dec.	0	310	139	230	104	783

TABLE 9-3 FUTA Taxes

MONTH	OWNER ($)	ESTIMATOR ($)	SECRETARY ($)	BOOK. ($)	CLERK ($)	TOTAL ($)
Jan.	56	40	18	30	13	157
Feb.	0	16	18	26	13	73
March	0	0	18	0	13	31
April	0	0	2	0	13	15
May	0	0	0	0	2	2
June	0	0	0	0	0	0
July	0	0	0	0	0	0
Aug.	0	0	0	0	0	0
Sept.	0	0	0	0	0	0
Oct.	0	0	0	0	0	0
Nov.	0	0	0	0	0	0
Dec.	0	0	0	0	0	0

The FUTA tax is calculated in the same manner for the remaining employees. The FUTA taxes for the year are shown in Table 9-3.

The company pays 2% on the first $22,000 of each employee's wages for state unemployment taxes (SUTA). The employees making $1,833.33 ($22,000/12) per month or less do not reach the SUTA limit and the amount of SUTA is the same for all of the months. Only the accounting clerk makes $1,833.33 or less. During the third month—March—the owner's wages exceed the SUTA limit. The SUTA paid by the company on the owner's wages is calculated as follows:

$$SUTA_{Jan\text{-}Feb} = \$10{,}000(0.02) = \$200$$
$$SUTA_{March} = [\$22{,}000 - \$10{,}000(2)]0.02 = \$40$$
$$SUTA_{April\text{-}Dec} = \$0$$

The SUTA tax is calculated in the same manner for the remaining employees. The SUTA taxes for the year are shown in Table 9-4.

The total budget for employee taxes will be the sum of the payments for social security, Medicare, FUTA, and SUTA. January is calculated as follows:

$$\text{Employee Taxes}_{Jan} = \$1{,}403 + \$328 + \$157 + \$453 = \$2{,}341$$

The budgets for employee taxes for the remaining months of the year are calculated in a similar manner. The monthly budgets for employee taxes for the year are shown in Table 9-5.

The monthly budget for insurance is a result of the liability insurance. The company is charged 0.5% of revenues, 1% of wages for hourly employees, and 3% of wages for salaried employees for general liability insurance. The wages for hourly employees is estimated to be $7,618 ($2,236 + $3,705 +

TABLE 9-4 SUTA Taxes

MONTH	OWNER ($)	ESTIMATOR ($)	SECRETARY ($)	BOOK. ($)	CLERK ($)	TOTAL ($)
Jan.	200	100	45	74	34	453
Feb.	200	100	45	74	34	453
March	40	100	45	74	34	293
April	0	100	45	74	34	253
May	0	40	45	74	34	193
June	0	0	45	70	34	149
July	0	0	45	0	34	79
Aug.	0	0	45	0	34	79
Sept.	0	0	45	0	34	79
Oct.	0	0	38	0	34	72
Nov.	0	0	0	0	34	34
Dec.	0	0	0	0	34	34

$1,677) per month and the wages for salaried employees is $15,000 ($10,000 + $5,000) per month. January's budget for insurance is calculated as follows:

$$\text{Insurance}_{\text{Jan}} = \$768{,}000(0.005) = \$7{,}618(0.01) = \$15{,}000(0.03)$$
$$\text{Insurance}_{\text{Jan}} = \$4{,}366$$

The insurance budgets for the remaining months of the year are calculated in a similar manner. The monthly budgets for insurance for the year are shown in Table 9-6.

The budget for taxes and licenses for January is the cost of the business licenses or $100. The budget for taxes and licenses for the remaining months of the year is zero.

The monthly budget for office supplies is $500 and the annual budget is $6,000.

The monthly budget for office rent is $500 and the annual budget is $6,000.

TABLE 9-5 Employee Taxes Budget

MONTH	BUDGET ($)	MONTH	BUDGET ($)
Jan.	2,341	July	1,810
Feb.	2,257	Aug.	1,810
March	2,055	Sept.	1,810
April	1,999	Oct.	1,648
May	1,926	Nov.	1,145
June	1,880	Dec.	1,145
		Total	21,826

TABLE 9-6 Insurance Budget

MONTH	BUDGET ($)	MONTH	BUDGET ($)
Jan.	4,366	July	3,026
Feb.	4,086	Aug.	2,481
March	4,451	Sept.	2,236
April	4,371	Oct.	2,826
May	3,366	Nov.	2,986
June	3,251	Dec.	3,106
		Total	40,512

The monthly budget for office utilities includes sewer and water, power, and natural gas. The monthly budgets are calculated as follows:

$$\text{Office Utilities}_{\text{Jan-Feb}} = \$50 + \$150 + \$150 = \$350$$
$$\text{Office Utilities}_{\text{March-May}} = \$50 + \$150 + \$50 = \$250$$
$$\text{Office Utilities}_{\text{June-Aug}} = \$50 + \$250 + \$50 = \$350$$
$$\text{Office Utilities}_{\text{Sept-Oct}} = \$50 + \$150 + \$50 = \$250$$
$$\text{Office Utilities}_{\text{Nov-Dec}} = \$50 + \$150 + \$150 = \$350$$

The annual budget for office utilities is $3,700.

The monthly budget for postage and delivery is $100 and the annual budget is $1,200.

The monthly budget for janitorial and cleaning is $433 ($100 \times 52/12$) and the annual budget is $5,196.

The telephone budget includes the telephone bill, long distance, and mobile phones for the office personnel. The monthly budget for telephone is $440 and the annual budget is $5,280.

The budget for charitable contributions consists of one contribution to a local food bank in December in the amount of $3,000. The budget for the remaining months is zero.

The annual budget for dues and memberships consists of their annual plan-room fee of $1,500, which is paid in April. The budget for the remaining months is zero.

The monthly budget for legal and professional services include services provided by the company's accounting firm. The monthly budget for January, July, and October is $1,000 each month. The monthly budget for April is $3,000 for a total annual budget of $6,000.

The monthly budget for meals and entertainment is $867 ($200 \times 52/12$) and the annual budget is $10,404.

The monthly budget for bank fees is $50 and the annual budget is $600.

The monthly budget for miscellaneous is $100 and the annual budget is $1,200.

The total monthly budgets for general overhead are shown in Table 9-7.

The employee costs and general overhead budget may also be calculated in spreadsheet format as shown in Figures 9-5 and 9-6. There are small differences

TABLE 9-7 Monthly General Overhead Budget

MONTH	BUDGET ($)	MONTH	BUDGET ($)
Jan.	43,974	July	65,323
Feb.	41,950	Aug.	36,688
March	42,743	Sept.	35,853
April	46,947	Oct.	38,761
May	39,239	Nov.	37,538
June	39,068	Dec.	55,898
		Total	523,682

Social Security Rate: 6.20%
Social Security Limit: 97,500
Medicare Rate: 1.45%
FUTA Rate: 0.80%
FUTA Limit: 7,000
SUTA Rate: 2.00%
SUTA Limit: 22,000

Item	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Owner													
Wages	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	120,000
Social Security	620	620	620	620	620	620	620	620	620	465	—	—	6,045
Medicare	145	145	145	145	145	145	145	145	145	145	145	145	1,740
FUTA	56	—	—	—	—	—	—	—	—	—	—	—	56
SUTA	200	200	40	—	—	—	—	—	—	—	—	—	440
Project Manager/Estimator													
Wages	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	60,000
Social Security	310	310	310	310	310	310	310	310	310	310	310	310	3,720
Medicare	73	73	73	73	73	73	73	73	73	73	73	73	870
FUTA	40	16	—	—	—	—	—	—	—	—	—	—	56
SUTA	100	100	100	100	40	—	—	—	—	—	—	—	440
Office Salaries	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	180,000
Secretary/Receptionist													
Hours Per Week	42	42	42	42	42	42	42	42	42	42	42	42	
Wage Rate	12	12	12	12	12	12	12	12	12	12	12	12	
Wages	2,236	2,236	2,236	2,236	2,236	2,236	2,236	2,236	2,236	2,236	2,236	2,236	26,832
Social Security	139	139	139	139	139	139	139	139	139	139	139	139	1,664
Medicare	32	32	32	32	32	32	32	32	32	32	32	32	389
FUTA	18	18	18	2	—	—	—	—	—	—	—	—	56
SUTA	45	45	45	45	45	45	45	45	45	38	—	—	440
Bookkeeper													
Hours Per Week	45	45	45	45	45	45	45	45	45	45	45	45	
Wage Rate	18	18	18	18	18	18	18	18	18	18	18	18	
Wages	3,705	3,705	3,705	3,705	3,705	3,705	3,705	3,705	3,705	3,705	3,705	3,705	44,460
Social Security	230	230	230	230	230	230	230	230	230	230	230	230	2,757
Medicare	54	54	54	54	54	54	54	54	54	54	54	54	645
FUTA	30	26	—	—	—	—	—	—	—	—	—	—	56
SUTA	74	74	74	74	74	69	—	—	—	—	—	—	440
Accounting Clerk													
Hours Per Week	42	42	42	42	42	42	42	42	42	42	42	42	
Wage Rate	9	9	9	9	9	9	9	9	9	9	9	9	
Wages	1,677	1,677	1,677	1,677	1,677	1,677	1,677	1,677	1,677	1,677	1,677	1,677	20,124
Social Security	104	104	104	104	104	104	104	104	104	104	104	104	1,248
Medicare	24	24	24	24	24	24	24	24	24	24	24	24	292
FUTA	13	13	13	13	2	—	—	—	—	—	—	—	56
SUTA	34	34	34	34	34	34	34	34	34	34	34	34	402
Hourly Wages	7,618	7,618	7,618	7,618	7,618	7,618	7,618	7,618	7,618	7,618	7,618	7,618	91,416
Total Wages	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	271,416
Taxes													
Social Security	1,402	1,402	1,402	1,402	1,402	1,402	1,402	1,402	1,402	1,247	782	782	15,433
Medicare	328	328	328	328	328	328	328	328	328	328	328	328	3,936
FUTA	157	74	31	16	2	—	—	—	—	—	—	—	280
SUTA	452	452	292	252	192	148	78	78	78	71	34	34	2,162
TOTAL	2,340	2,256	2,054	1,998	1,925	1,878	1,809	1,809	1,809	1,646	1,144	1,144	21,811

FIGURE 9-5 Employee Costs

General Overhead													
Item	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Advertising	7,680	7,120	7,850	7,690	5,600	5,450	5,000	3,910	3,420	4,600	4,920	5,160	68,400
Promotion	—	—	—	—	—	—	8,000	—	—	—	—	15,000	23,000
Car and Truck Expenses	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	13,200
Computer and Office Furniture	—	—	—	—	—	—	18,000	—	—	—	—	—	18,000
Employee Wages and Salaries	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	22,618	271,416
Employee Benefits	750	750	750	750	750	750	750	750	750	750	750	750	9,000
Employee Retirement	679	679	679	679	679	679	679	679	679	679	679	679	8,142
Employee Taxes	2,340	2,256	2,054	1,998	1,925	1,878	1,809	1,809	1,809	1,646	1,144	1,144	21,811
Insurance	4,366	4,086	4,451	4,371	3,326	3,251	3,026	2,481	2,236	2,826	2,986	3,106	40,514
Taxes & Licenses	100	—	—	—	—	—	—	—	—	—	—	—	100
Office Supplies	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Office Rent	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Office Utilities	350	350	250	250	250	350	350	350	250	250	350	350	3,700
Postage and Delivery	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Janitorial and Cleaning	433	433	433	433	433	433	433	433	433	433	433	433	5,200
Telephone	440	440	440	440	440	440	440	440	440	440	440	440	5,280
Charitable Contributions	—	—	—	—	—	—	—	—	—	—	—	3,000	3,000
Dues and Memberships	—	—	—	1,500	—	—	—	—	—	—	—	—	1,500
Legal and Professional Services	1,000	—	—	3,000	—	—	1,000	—	—	1,000	—	—	6,000
Meals and Entertainment	867	867	867	867	867	867	867	867	867	867	867	867	10,400
Bank Fees	50	50	50	50	50	50	50	50	50	50	50	50	600
Miscellaneous	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Total Overhead	43,972	41,949	42,742	46,946	39,238	39,066	65,321	36,686	35,851	38,459	37,537	55,897	523,663

FIGURE 9-6 General Overhead Budget

SIDEBAR 9-1

CALCULATING MONTHLY SOCIAL SECURITY, FUTA, AND SUTA USING EXCEL

The monthly SUTA costs for the owner and project manager from Figure 9-5 may be set up in a spreadsheet as shown in the following figure:

	A	B	C	D	M
1	SUTA Rate	2.00%			
2	SUTA Limit	22,000			
3					
4		Jan	Feb	Mar	Dec
5	Owner:				
6	Wages	8,000	8,000	8,000	8,000
7	SUTA	160.00	160.00	120.00	-
8					
9	PM:				
10	Wages	5,000.00	5,000.00	5,000.00	5,000.00
11	SUTA	100.00	100.00	100.00	-

To set up this spreadsheet, the formulas, text, and values shown on page 215 need to be entered into it.

The spreadsheet uses the following logic: If the wages to date (including this month's wages) exceed the SUTA wage limit, then the SUTA due is equal to the SUTA rate multiplied by the SUTA limit less the SUTA paid in previous months; otherwise, the SUTA due is equal to the SUTA rate multiplied by this month's wages. For the owner in Figure 9-5, January's wages do not exceed the SUTA limit; therefore, January's SUTA cost is equal to the SUTA rate multiplied by this month's wages, or \$160 (0.02 × \$8,000). January and February's wages (\$16,000) do not exceed the SUTA limit (\$22,000); therefore, February's SUTA cost is equal to the SUTA rate multiplied by this month's wages, or \$160 (0.02 × \$8,000). January through March's wages (\$24,000) exceed the SUTA limit (\$22,000); therefore, March's SUTA cost is equal to the SUTA rate multiplied by the SUTA limit less the SUTA paid in previous months, or \$120 (0.02 × \$22,000 − 2 × \$160).

In the spreadsheet, the formula for February's SUTA cost can be copied from cell B7 to cells C7 through M7 by using absolute references when referring to the SUTA rate (cell B1) and the SUTA limit (B2) and by using absolute column references to always start the summing in Column B. The formula in cell C7 uses the following SUM function as part of the formula:

SUM(\$B7:B7)

As this portion of the formula is copied, the starting cell of the sum remains cell B7, while the ending cell number increases. By not using absolute row references to start the summing, we can copy row 7 to row 11 to calculate the SUTA costs for the project manager. The same procedures can be used to calculate the FUTA and social security costs. See Appendix B for more information on absolute references.

	A	B	C	D	M
1	SUTA Rate	0.02			
2	SUTA Limit	22000			
3					
4		Jan	Feb	Mar	Dec
5	Owner:				
6	Wages	8000	=B6	=C6	=L6
7	SUTA	=IF(B6>B2, B1*B2, B6*B1)	=IF(SUM($B6:C6)> B2,B2*B1 -SUM($B7:B7), C6*B1)	=IF(SUM($B6:D6)> B2,B2*B1 -SUM($B7:C7), D6*B1)	=IF(SUM($B6:M6)> B2,B2*B1 -SUM($B7:L7), M6*B1)
8					
9	PM:				
10	Wages	5000	=B10	=C10	=L10
11	SUTA	=IF(B10>B2, B1*B2, B10*B1)	=IF(SUM($B10:C10)> B2,B2*B1 -SUM($B11:B11), C10*B1)	=IF(SUM($B10:D10)> B2,B2*B1 -SUM($B11:C11), D10*B1)	=IF(SUM($B10:M10)> B2,B2*B1 -SUM($B11:L11), M10*B1)

between the numbers shown in Figures 9-5 and 9-6 and the calculations in Example 9-3, which are due to rounding in the example.

Conclusion

General overhead costs include those costs that cannot be tied to a specific construction project. A company should prepare a general overhead budget and track general overhead costs just as it tracks project costs. The general overhead budget is a valuable tool in controlling the costs of overhead. Historical data are the best for use in preparing a general overhead budget. When preparing the budget, managers must take into account changes in their business and inflation. When the volume of business changes, the general overhead costs may remain fixed over the change in volume, vary with the change in volume, or both. When a cost does not change with a change in volume it is considered a fixed cost. When a cost changes with the volume of work it is considered a variable cost. A cost that contains both fixed and variable cost components is known as a mixed cost. When projecting costs, exponential or linear regression may be used to project inflation into future costs when multiple periods of historical data are available.

Problems

1. Determine the annual budget for office utilities using the data from the past 12 months shown in Figure 9-7. Utility costs are expected to increase by 8% per year due to inflation. None of the company's goals are expected to affect the utility costs.
2. Determine the annual budget for office utilities using the data from the past 12 months shown in Figure 9-7. Utility costs are expected to increase by 7% per year due to inflation. The company is planning on doubling its office space in July by expanding into some unoccupied space adjacent to its existing office space.
3. Determine the projected costs for utilities in year 5. The inflation rate has been determined to be 0.222 and the initial cost is $57.39.
4. Determine the projected costs for utilities in year 10. The inflation rate has been determined to be 0.076 and the initial cost is $56.27.
5. You have been running a construction company out of your home with your spouse helping you keep the books. The company has grown and has begun to take up too much of your and your spouse's time. The decision has been made to hire a part-time estimator to help you with the bidding and a full-time office manager. The office manager's duties will include accounting, receptionist, and secretarial duties. By hiring the new personnel you will need to move the company's operations out of your home and into an office.

12/14/04 Page 1

EXPENSE REPORT

From 12/1/03 to 11/30/04

Ck Num	Date	Payee	Account	Amount
4990	01/07/04	Gas Company	Office Utilities	231.13
5004	01/21/04	Power Company	Office Utilities	100.35
5029	02/06/04	Gas Company	Office Utilities	291.01
5035	02/20/04	Power Company	Office Utilities	99.56
5036	03/05/04	Gas Company	Office Utilities	273.12
5047	03/19/04	Power Company	Office Utilities	105.22
5073	04/02/04	Gas Company	Office Utilities	206.65
5103	04/16/04	Power Company	Office Utilities	80.47
5133	05/08/04	Power Company	Office Utilities	86.42
5159	05/22/04	Gas Company	Office Utilities	159.23
5181	06/02/04	Power Company	Office Utilities	80.21
5182	06/16/04	Gas Company	Office Utilities	89.91
5204	07/07/04	Power Company	Office Utilities	106.06
5229	07/21/04	Gas Company	Office Utilities	71.51
5233	07/30/04	Gas Company	Office Utilities	44.73
5262	08/13/04	Power Company	Office Utilities	113.69
5272	09/02/04	Power Company	Office Utilities	98.81
5287	09/16/04	Gas Company	Office Utilities	48.72
5295	10/09/04	Gas Company	Office Utilities	54.52
5315	10/23/04	Power Company	Office Utilities	95.44
5323	10/29/04	Gas Company	Office Utilities	62.94
5344	11/12/04	Power Company	Office Utilities	77.10
5366	12/07/04	Gas Company	Office Utilities	109.23
5375	12/11/04	Power Company	Office Utilities	111.51
			Total	2,797.54

FIGURE 9-7 Utility Costs

Use the following cost information to prepare a cash flow budget for one year:

ITEM	COST
Estimator's Wages	$15/hr for 20 hrs/week
Office Manager's Wages	$12/hr for 40 hrs/week
Social Security	6.2% of wages to $97,500
Medicare	1.45% of wages
FUTA	0.8% to $7,000 of wages per employee
SUTA	2.0% to $12,000 of wages per employee
Workers' Comp.	$1.25 per $100 of wages
General Liability	0.67% of wages
401(k)	50% match up to 6% of wages
Health Insurance	$150/month per employee
Vacation/Sick/Holidays	10 days per year
Rent	$12 per square foot per year
Utilities	$0.25 per square foot per month

The employees pay $200 per month toward their insurance, which is not subject to social security and Medicare taxes. The budget should include the following budget categories:

Advertising
Bad Debts
Bank Fees
Car and Truck Expenses
Charitable Contributions
Computer and Office Furniture
Depreciation
Dues and Memberships
Employee Wages and Salaries
Employee Benefits
Employee Retirement
Employee Recruiting
Employee Training
Employee Taxes
Insurance
Interest Expense
Janitorial and Cleaning
Legal and Professional Services

Meals and Entertainment
Office Supplies
Office Purchases
Office Rent
Office Utilities
Postage & Delivery
Promotion
Publications and Subscriptions
Repairs and Maintenance
Taxes and Licenses
Telephone
Travel
Unallocated Labor
Unallocated Materials
Miscellaneous

A budget of "0" for a category is acceptable. Present your budget in the following format:

CATEGORY	AMOUNT $/YEAR	JUSTIFICATION
Advertising		
. . .		

6. Set up Figures 9-5 and 9-6 in spreadsheets in an Excel workbook. The spreadsheet for Figure 9-5 should allow the user to recalculate the social security, Medicare, FUTA, and SUTA costs by changing the social security rate and limit, Medicare rate, FUTA rate and limit, SUTA rate and limit, the wages for salaried employees, and the hours [worked] per week and wage rate for hourly employees. Use the concepts presented in Sidebar 9-1 to set up this spreadsheet. When a change is made to the spreadsheet for Figure 9-5, the employee wages and salaries, the employee taxes, and insurance should automatically change in the spreadsheet for Figure 9-6. Hint: Add a line for revenues to the spreadsheet for Figure 9-6 to make calculation of the advertising budget easier.