



THIS MATERIAL REPRESENTS THE CONSIDERED OPINIONS OF THE BUSINESS PRACTICES COMMITTEE AND THE BOARD OF MANAGEMENT OF THE CORPORATION OF BC LAND SURVEYORS REGARDING REASONABLE STANDARDS FOR FINANCIAL COMPENSATION AND CONTRACTING OF PROFESSIONAL SURVEY SERVICES. INDIVIDUAL SURVEYORS SHOULD ALSO CONSIDER ANY UNIQUE ASPECTS OF THEIR INDIVIDUAL PRACTICES IN ORDER TO DEVELOP APPROPRIATE FEE SCHEDULES.

BCLS

Business Practices Committee BULLETIN

Billing rates or payroll multipliers

THE FEE

A surveyor's fee represents three factors: the major source of income, an incentive and a reward. As a source of income, fees are the means by which surveyors meet the financial obligations of their practice, such as bills, payroll and taxes. That same income provides for the professional's personal livelihood. As an incentive, a fee must be sufficient to motivate the surveyor to continue in the profession. As a reward, it must be sufficient to allow the surveyor to work and live at a comfortable level. Without these three factors surveyors cannot remain in practice nor can they attract future surveyors to enter the profession.

Business owners often confuse their salary with their profit. Their salaries are what they could earn as a staff surveyor working on the open market. Profit is the reward for ownership and risk. Before tax profits generally range from 20% to 50% of salary plus benefits and overhead. Before any profits can be achieved, billing rates have to be determined. Billing rates are based on billable hours and utilization rate. Billable hours are the number of working hours you can charge to your client while the utilization rate is the percentage of total working hours that can be billed to your client. See previous article on Bulletin #4, "How Many Hours are There in a Year." The utilization rate tells you at a glance how much of your time you must write off and how much of your time you can invoice your clients.

Utilization Rate = $\frac{\text{Billable Hours}}{\text{\# of Total Working Hours}}$

Formulas commonly used to calculate billing rates:

The Rule of Three is a common rule used by consulting firms to calculate their billing rates. The basic assumption is that every consulting firm incurs overhead and benefits that equal the salary component in their expenses. In addition every consultant should produce a profit that is equal to their salary or:

$$\begin{aligned} & 1/3 = \text{Consultant's Salary} \\ + & 1/3 = \text{Overhead Plus Benefits} \\ + & 1/3 = \text{Profit} \\ & \hline & = \text{Total Yearly Revenues} \end{aligned}$$

$$\text{Billing Rate/Hour} = \frac{\text{Total Yearly Revenue}}{\text{Yearly Billable Hours}}$$

As you can see this is a simple method to calculate the billing rate. The only thing you need to know is your salary requirements and the yearly billable hours. The more billable hours you have the less you need to charge to maintain your profit requirement.

A small to medium survey firm employing a senior and junior land surveyor along with 2 survey crews and two office technicians (see Circular Letter CL 4/00) would probably have an annual salary of approximately:

Salary Component	= \$ 359,000
Overhead + Benefits	= \$ 359,000
Profit Before Taxes	= \$ 359,000
Total	= \$ 1,077,000

Annual Billable Hours = 1500

Then Hourly Billing Rate = $\frac{\$1,077,000}{1500} = \$718/\text{hour}$

Sr. Surveyor at \$82,000/yr = $\frac{\$67,500}{\$359,000} \times \$718 = \$135/\text{hr}$

Sr. Field Technician = $\frac{\$42,000}{\$400,000} \times \$718 = \$84/\text{hr}$

Office Technician = $\frac{\$42,000}{\$400,000} \times \$718 = \$84/\text{hr}$

etc. for balance of individual charge-out rates. Great in theory but generally not achievable by a survey practice. Remember that fringe benefits generally run from 25% to 45% of annual salary.

Some firms have a lower percentage of overhead and benefit costs while others think these rates are too high and as such, multiply their salary component by 2, then:

$$\begin{aligned} & \frac{1}{2} = \text{Salary Component} \\ + & \frac{1}{4} = \text{Overhead + Benefits} \\ + & \frac{1}{4} = \text{Profit} \\ & \text{-----} \\ & = \text{Total Yearly Revenues} \end{aligned}$$

You can alter the Rule of 3 to fit your particular situation but at best it is applying a skinner's constant and generally blurs the true picture.

Weighted Fringe Benefits is another version of the Rule of 3. It was developed when firms realized that overhead and benefits were increasing at a faster rate than the salary component.

As a result they derived the following formula:

$$\text{Hourly Rate} = \frac{3.25 \times \text{Annual Salary} + \text{Fringe Benefits}}{\text{Annual Billable Hours}}$$

Sr. Surveyor Charge-Out Rate:

Annual Salary	=	\$67,500
Total Annual Hours	=	2040

Then $\frac{\$67,500}{2040} = \$33/\text{hr.}$

and fringe benefits = 25% of salary or \$8.25/hour
then $\frac{3.25 \times 67,500}{1500} + \$8.25 = \text{Billing Rate/hour}$

Billing Rate = \$154.50/hour... Again at best a guess as to costs.

Another formula used is the **Exact Cost Method**. In this method you keep track of all the costs associated with operating your survey business. These costs are overhead plus salary benefits and all additional costs you incur. You add your profit requirement and divide the sum of exact costs plus profit by your total billable hours.

$$\text{Hourly Billing Rate} = \frac{\text{Exact Costs} + \text{Profit Requirements}}{\text{Yearly Billable Hours}}$$

If exact costs	=	\$800,000.00
and profit requirement (before taxes)	=	30% of Exact Costs = \$240,000.00
and annual billable hours	=	1500

then the hourly billing rate:
$$= \frac{\$800,000 + \$240,000}{1500 \text{ Hours}} = \$693.00/\text{hr.}$$

individual billing rate then:
$$\frac{\text{Annual Salary} \times \text{hourly billing rate}}{\text{Aggregate Annual Salary}}$$

Sr. Surveyor $\frac{\$67,500}{\$359,000} \times \$693/\text{hr.} = \$130.00/\text{hr.}$

Sr. Field Technician $\frac{\$42,000}{\$359,000} \times \$693/\text{hr.} = \$81.00/\text{hr.}$

Jr. Field Technician $\frac{\$34,500}{\$359,000} \times \$693/\text{hr.} = \$66.60/\text{hr.}$

etc. for balance of individual charge-out rates. Try this using your own figures. I am sure it will enhance your idea of multipliers.

You can see the Exact Cost Method requires you to constantly monitor the financial position of the company. You then know which costs are rising and at what rate. The other formulas assume that overhead costs rise or fall at the same rate as the salary component which is generally reviewed once a year.

From this it is clear that the 2.7 multiplier as stated in the orange book is not sufficient, in fact it should be a minimum of 3 and probably closer to 3.5.

In addition to calculating billing rates, consideration should be given to value added. In a future article we will try to address that issue.

References:

Consulting: R.E. Kelly Macmillan Publishing Co., Fee Guideline for Engineering Services – A.P.E.G. of B.C., Blended Hourly Rate Fees – A.I.B.C.

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