



## UNDERSTANDING SALARY GUIDES: PART II

# ANALYZING THE EXPIRING SALARY GUIDE

This article is the second in a series on salary guides. Part I in this series examined the anatomy of a guide, salary guide terminology, the types of analyses that boards should undertake, the inter-relationship between the salary guide and board goals, and negotiations of salary guides. Readers are strongly encouraged to become familiar with the material contained in Part I prior to proceeding to this and subsequent articles. Part II more specifically describes how a guide analysis should be done and how it will assist the board in attaining its management goals.

One of the critical tasks that boards need to undertake during their preparations for negotiations is an analysis of the salary guide that will be in place when the contract expires (i.e., the “final year guide”). Because the final year guide serves as the base for the negotiation of successor guides, it is the starting point for the board’s analysis. Example 1 shows “our” district’s final year salary guide from the expiring agreement. Two types of analyses of this guide must be conducted: a structural analysis and a cost analysis.

### EXAMPLE 1

OUR EXPIRING SALARY GUIDE			
Step	BA	MA	MA+30
1	45,800	47,800	50,800
2	46,100	48,100	51,100
3	46,400	48,400	51,400
4	46,700	48,950	52,200
5	47,000	50,000	52,500
6	48,500	51,500	54,000
7	50,000	52,000	55,500
8	51,800	52,600	57,800
9	53,800	54,700	59,800
10	56,000	57,500	62,000
11	58,300	63,300	64,300
12	60,700	65,700	67,700
13	63,200	68,200	70,200
14	66,200	70,200	76,200
15	70,200	70,800	80,200
16	74,700	74,900	84,700
17	79,700	87,700	89,700

### Analyzing the Guide’s Structure

The salary guide “structure” refers to the relationship between salaries on the guide, including the pattern and size of the increments and column differentials on the salary guide. “Increment” refers to the difference between two consecutive salary rates on the same column. “Differential” refers to the difference between the salary rates at the same step on two adjacent columns. Both increments and differentials can be expressed as a dollar figure or a percentage. As we analyze the salary guide’s structure, we are not concerned with the placement of staff on the salary guide or the cost of the guide. The structural analysis looks at the following key components of the salary guide:

- the minimum and maximum salary rates
- the size of each and every increment
- the size of each and every differential
- the number of increments on each column
- the average increment on each column
- the average differential between adjacent columns.

Example 2 illustrates a structural analysis of “our” district’s expiring salary guide. Please refer to this example as we examine each component of our guide analysis. (Note: this section will address the components of the analysis and how to do the calculations. Assessment of the data will be discussed in the section that follows.)

**Minimum and Maximum Salaries** The minimum and maximum salary rates require no calculation. These rates for each column can be determined by a simple examination of the guide. For example, we see that the BA minimum salary rate is \$45,800, and the BA maximum salary rate is \$79,700.

**The Size of Increments** Increments are the intervals between steps. Each and every increment can be calculated both as a dollar figure as well as a percentage factor. The dollar amount for each increment is calculated by taking the difference between the salary rates of two consecutive steps in the same column. For example, the increment value between BA Step 2 and BA Step 1 is \$300 (46,100 - 45,800). The percentage factor is calculated by dividing the dollar amount of the increment (\$300) by the lesser salary rate (\$45,800). The percentage factor between BA step 1 and Step 2 is 0.7% (300 ÷ 45,800 =

**EXAMPLE 2**

<b>OUR EXPIRING SALARY GUIDE</b>					
<b>Step</b>	<b>BA</b>		<b>MA</b>		<b>MA+30</b>
1	45,800	2,000	47,800	3,000	50,800
	300	4.4%	300	6.3%	300
	0.7%		0.6%		0.6%
2	46,100	2,000	48,100	3,000	51,100
	300	4.3%	300	6.2%	300
	0.7%		0.6%		0.6%
3	46,400	2,000	48,400	3,000	51,400
	300	4.3%	550	6.2%	800
	0.6%		1.1%		1.6%
4	46,700	2,250	48,950	3,250	52,200
	300	4.8%	1,050	6.6%	300
	0.6%		2.1%		0.6%
5	47,000	3,000	50,000	2,500	52,500
	1,500	6.4%	1,500	5.0%	1,500
	3.2%		3.0%		2.9%
6	48,500	3,000	51,500	2,500	54,000
	1,500	6.2%	500	4.9%	1,500
	3.1%		1.0%		2.8%
7	50,000	2,000	52,000	3,500	55,500
	1,800	4.0%	600	6.7%	2,300
	3.6%		1.2%		4.1%
8	51,800	800	52,600	5,200	57,800
	2,000	1.5%	2,100	9.9%	2,000
	3.9%		4.0%		3.5%
9	53,800	900	54,700	5,100	59,800
	2,200	1.7%	2,800	9.3%	2,200
	4.1%		5.1%		3.7%
10	56,000	1,500	57,500	4,500	62,000
	2,300	2.7%	5,800	7.8%	2,300
	4.1%		10.1%		3.7%
11	58,300	5,000	63,300	1,000	64,300
	2,400	8.6%	2,400	1.6%	3,400
	4.1%		3.8%		5.3%
12	60,700	5,000	65,700	2,000	67,700
	2,500	8.2%	2,500	3.0%	2,500
	4.1%		3.8%		3.7%
13	63,200	5,000	68,200	2,000	70,200
	3,000	7.9%	2,000	2.9%	6,000
	4.7%		2.9%		8.5%
14	66,200	4,000	70,200	6,000	76,200
	4,000	6.0%	600	8.5%	4,000
	6.0%		0.9%		5.2%
15	70,200	600	70,800	9,400	80,200
	4,500	0.9%	4,100	13.3%	4,500
	6.4%		5.8%		5.6%
16	74,700	200	74,900	9,800	84,700
	5,000	0.3%	12,800	13.1%	5,000
	6.7%		17.1%		5.9%
17	79,700	8,000	87,700	2,000	89,700
		10.0%		2.3%	
<b>Average Differential:</b>		<b>2,779</b>		<b>3,985</b>	
<b>Cumulative Differential:</b>		<b>2,779</b>		<b>6,765</b>	
<b>Increments Number:</b>		<b>16</b>	<b>16</b>		<b>16</b>
<b>Average \$:</b>		<b>2,119</b>	<b>2,494</b>	<b>2,494</b>	<b>2,431</b>
<b>Average %:</b>		<b>3.5%</b>	<b>2.7%</b>	<b>3.9%</b>	<b>2.5%</b>
		<b>3.5%</b>	<b>2.7%</b>	<b>3.9%</b>	<b>2.5%</b>

0.007 or 0.7%). This simply means that the salary rate at BA Step 2 is 0.7% greater than the BA salary rate at Step 1. This is calculated at all steps on every column of the guide.

**The Size of Differentials** Differentials are the intervals between columns. Each and every differential can be calculated both as a dollar figure as well as a percentage factor. The dollar amount for each differential is calculated by taking the difference between the salary rates at the same step of two adjacent columns. For example, the differential value between MA Step 1 and BA Step 1 is \$2,000 (47,800 - 45,800). The percentage factor is calculated by dividing the dollar amount of the differential (\$2,000) by the lesser salary rate (\$45,800). The percentage factor for the differential between BA Step 1 and MA Step 1 is 4.4% (2,000 ÷ 45,800 = 0.044 or 4.4%). This means that a teacher at Step 1 who has a Master's degree will earn \$2,000 or 4.4% more than a teacher at Step 1 with a Bachelor's degree. These calculations are done for all adjacent columns.

**The Average Differential** The average differential is calculated by taking an average of the individual differentials between two columns. For example, the average differential between the BA and the MA columns would be calculated by summing the differentials at each step (i.e., 2,000 + 2,000 + 2,200 + 2,250 + 3,000, etc.) and dividing by the number of differentials (17). The result is \$2,791.

**The Number of Increments** The number of increments is the number of movements required to go from the minimum salary rate on a column to the maximum salary rate. The number of increments is one less than the actual number of steps. On a guide that begins with Step 1 and has consecutively numbered steps, the number of increments would be one less than the last numbered step. For example, on our guide, the number of increments is 16 (17 steps - 1).

**The Average Increment** The average increment on a column can be expressed as a dollar figure and as a percentage factor. There are a number of ways that each of these figures can be calculated.

**Average Dollar Increment:** The average dollar increment can be calculated by averaging all the individual dollar increments on a given column. For example,

on the BA column, the average dollar increment is the sum of all the increments (i.e., 300 + 300 + 300 + 300 + 1,500, etc.) divided by the number of increments (16). The result is \$2,119.

A quicker approach would be to subtract the minimum rate from the maximum rate on a given column and divide the resulting number by the number of increments for that column. On the BA column, the calculation is as follows:

$$\begin{aligned} &(\text{Maximum Rate} - \text{Minimum Rate}) \div \text{Number of Increments} \\ &(79,700 - 45,800) \div 16 = 2,119 \end{aligned}$$

**Constant Percentage Increment:** The formula to calculate the constant percentage factor involves calculating the Nth root of the maximum rate divided by the minimum rate. This can be done either by using a calculator that has the ability to derive roots from various numbers (note that many calculators do not contain this feature) or by using the "rate" function in an excel spreadsheet. For example, based on "our" guide's BA column, the formula would read: =RATE(Number of Increments,,- Minimum,Maximum). Based on "our" guide, the formula would read: =RATE(16,,-45,800,70,700). Note that there is a blank field after the number of increments and that the minimum is entered as a negative amount.) The result in our example is 3.5%.

## Assessing the Salary Guide Structure

Once the analysis of the salary guide structure is complete, the board will want to assess each component of the analysis to determine whether the structure is supportive of management goals, or whether certain aspects of the structure serve as an impediment to the district's needs and goals. (Please review Part I of this series on salary guides for a detailed discussion of the salary guide and board goals.) An assessment of each component follows.

**Minimum Salaries** The board will want to assess the minimum salaries to determine whether they are healthy enough to meet the personnel goal of attracting new teachers to the district. In recent years, there has been an over-supply of teachers in the market (at least in many areas, such as elementary education). Thus, attracting quality candidates to the district may not be a concern for a particular board. However, in some disciplines, there may be a shortage of teachers; thus, the board will want to maintain competitive minimums to address this problem.

To determine whether the district's starting salaries are adequate, the board will want to examine its history of hiring new teachers: Has it been able to hire high quality new teachers? Has it been able to obtain its first or second choice candidates? The board may find it helpful to look at comparative data. How does its starting salaries compare to those in other districts of similar size and enrollment pattern in neighboring areas?

Even if a board finds that its minimum salaries are currently strong enough to attract high quality candidates to the district, it must strive to ensure that they remain

sufficient to address not only current staffing requirements, but also future needs.

**Maximum Salaries** The board will also want to assess the maximum salaries to determine whether senior teachers are being appropriately compensated. Because unions are generally most protective of senior teachers, and because senior teachers seldom leave a district for better pay in another district, the sufficiency of the maximum rate is rarely a concern for the board. More frequently, boards are concerned with the rate at which maximum salaries have grown and may want to curtail the growth of the top salaries. As part of its analyses, a board may want to compare its maximum salaries to those in other similar districts to determine whether its salaries are on par with other districts, or are out of line.

**Increments** In assessing the size of the increments and increment pattern, as revealed by our analysis (please continue to refer to Example 2 throughout this discussion), it is helpful to scan the increment values and compare the individual increments to the average increment listed at the bottom of the column. On the BA column, the average increment is \$2,119 or 3.5%. Individual dollar increments between Steps 8 and 13 are fairly close to the average (e.g., \$2,000 to \$2,500). However, the increments at the first four steps are much smaller than average (\$300 or 0.6% or 0.7% each) and there are balloons (i.e., an inordinately large increment) from Step 14 through Step 17 of \$4,000 (6.0%), \$4,500 (6.4%) and \$5,000 (6.7%).

The board will want to assess what impact, if any, these aberrations have on district needs and personnel goals. For example, have the very small increments at the early steps affected the board's ability to retain recently hired teachers in the district? Or do newer teachers leave after a year or two to seek employment in a district with greater earning potential at the earlier steps? And if this is the case, has this been a concern, or could it become a concern for the board and the administration? (It may be now, because of the time commitment devoted to mentoring and evaluating new teachers.)

On the other hand, the board may have made a conscious decision to pay inexperienced, nontenured teachers at a lower salary rate until such time as they have been granted tenure status in the district. In which case, the pattern of increments may be acceptable because it reflects a board objective.

The balloons from Step 14 through Step 17 should be of concern to the board. Balloons rarely reflect a board goal. They usually reflect the union's goals (e.g., the desire to give individuals at maximum an "adequate" or large increase without adding steps to the guide). Balloons can be a real problem for both the board and the union, particularly since they can grow increasingly larger with each new round of bargaining. At the very least, the board should establish a bargaining goal to ensure that the balloon does not grow any larger in subsequent rounds of bargaining. However, it would be more desirable to establish a goal to diminish or even eradicate the balloon. Depending on the size of the balloon, this may take more

than one round of bargaining to accomplish. But balloons left unattended can grow enormously, causing problems of much greater magnitude down the road. For instance, the cost of increment can exceed what the board can afford to pay as the settlement rate.

Even if a board's analysis reveals balloons do not hold immediate concerns because few or no staff are currently approaching the balloons, they still cannot be ignored. Eventually, staff members at earlier steps will move through the guide and, when they pass through the balloon in future years, it could create major cost and distribution problems.

**Number of Increments** The board will want to assess the length of the guide (i.e., the number of increments) to determine if it is consistent with district needs. If the guide is considerably shorter than the statewide average (which is between 16 and 17 steps), this may mean that: the increments are rather large; the minimum is rather high; maximum is rather low; or some combination of the three. If the guide is on the longer side, it may mean that: the increments are on the smaller side; the minimum salary is rather low; or maximum is quite high; or some combination thereof. Thus, the length of the guide is important because of the impact it has on the salary rates throughout the guide and the size of the increments. Understanding the effect of guide length on salary rates and increments can help highlight areas of the guide that the board may want to change to achieve its personnel goals and its goals concerning future costs.

**Column Differentials** Additional columns on the guide (i.e., beyond the BA) are designed to encourage and reward additional educational attainment. In assessing the pattern and size of column differentials, the board will need to examine its goals for staff development, the district's history, and internal equity.

First, the board must determine what level of advanced education is important to the district. Some districts may attach little value to graduate degrees. Other districts may strongly want to encourage teachers to pursue formal academic education and advanced degrees in their area of teaching, such as a Master's degree or doctorate in their field. Other districts fall somewhere in-between.

Having made those preliminary determinations, the board can then assess the differentials between columns to determine whether the additional money paid for advanced columns is consistent with its goals. If a board has no desire to have its teachers obtain credits beyond the Master's, then a guide with additional columns or large differentials beyond the Master's is not consistent with the board's philosophy. Conversely, if a board wants its teachers to continue to pursue graduate coursework beyond the Master's, then small differentials beyond the MA column may not provide a strong incentive.

The board will also want to consider its contract language and practice in assessing column differentials. For example, does the language or practice permit teachers to move to advanced columns based on attainment of

graduate coursework only? Or does the contract allow for horizontal movement on the guide based on undergraduate work. If the board wants to encourage teachers to pursue advanced degrees, then restricting horizontal movement to graduate coursework only would be more supportive of this goal (and would limit future costs).

Under *N.J.S.A. 18A:3-15.3*, passed in 2010, in order for additional education to be eligible for horizontal movement the coursework must be taken at an accredited institution (as defined by the New Jersey Department of Education) and the coursework must be related to the employee's current or future job responsibilities.

Each board will also want to assess the district's history and anticipated future experience under its guide structure. If teachers are pursuing advanced academic preparation consistent with the board's goals, then there may be no need to increase the size of the column differentials or to add more columns. If a board anticipates that its column differentials and the criteria for movement to advanced columns could result in significant increases in the district's future salary costs, it may need to establish a goal to modify the salary guide or contract language affecting horizontal movement on the guide.

Finally, the board will want to examine the pattern of differentials, just as it does the pattern of increments. While many districts' guides have a logical, rational pattern of column differentials (e.g., constant dollars or constant percentages), many others have no logical or rational pattern and may contain aberrations.

Referring back to our salary guide structural analysis in Example 2, an examination of the differential pattern between the BA and MA columns reveals some idiosyncrasies. Overall there appears to be no consistent pattern of differentials. One may question: why should a Master's degree be worth an additional \$3,000 over the Bachelor's column at Step 5, worth only \$800 at Step 8, and an \$8,000 at Step 15? Furthermore, when comparing the largest differential to the average differential at the bottom of the analysis, we see that the largest differential is more than two and a half times larger than the average ( $\$8,000 / \$2719 = 2.87$ ).

**Relationship Between Increments and Differentials** The pattern of differentials is related to the pattern of increments, and vice versa. An aberration in the pattern of differentials may occur when there is an aberration in the pattern of increments on two adjacent columns. Conversely, an aberration in the pattern of increments may be the result of an aberrant differential.

In looking at the excerpt from our structural analysis, as shown in Example 3, we see that the first two increments on the BA column are the same as those on the MA column (\$300). However, between Steps 3 and 4 on the MA column, the increment is \$550, whereas on the BA column that increment is \$300. The result is that the differential between BA and MA columns at Step 5 is \$2,250 because the salary rate at MA Step 4 increased from Step 3 by a greater amount than that on the BA column.

Conversely, it could be said that the aberrant differential between the BA and MA columns at Step 16 causes the increment between Steps 16 and 17 of the MA column to be \$12,800 or 17.1% larger than any other increment on the guide. On the full structural analysis, similar aberrations may be noted at other areas of the guide.

In establishing salary guide goals, the board will need to determine whether the variations and aberrations in the pattern of increments and differentials are acceptable, or whether they should be modified.

**EXAMPLE 3**

**EXERPTS FROM OUR STRUCTURAL ANALYSIS**

Step	BA		MA
1	45,800 300 0.7%	2,000	47,800 300
2	46,100 300	2,000	48,100 300
3	48,400 1133	2,000	48,400 550
4	49,700	2,250	48,950
16	74,700 5,000	200	74,900 12,800
17	79,700	8,000	87,700

**Establishing Goals Based on the Structural Analysis**

Conducting an analysis of the structure of an existing guide is not very complicated, but establishing achievable and affordable objectives to meet the district’s personnel goals may be a considerably more complex task. Assessing the guide’s ability to address district needs and to meet management’s goals requires balancing short-term and long-term goals with what is achievable and acceptable. Not all of the board’s desired outcomes for its salary guide may be achievable in one round of bargaining. Yet, boards should not underestimate their ability to obtain meaningful changes to the guide structure.

Based on concerns identified in the structural analysis, the board in “our” example established several objectives.

1. Because of concerns about the future cost impact of the balloons, the board has determined that it wants to significantly reduce the size of the balloons. They exist on various columns, especially toward the maximum end of the guide. The board also wants to avoid creating any new balloons.
2. Since the board has not had difficulty attracting new teachers to the district, its goal regarding minimums is simply to maintain its competitive standing.

3. While the board has not had difficulty obtaining highly qualified new teachers, there is an emerging trend in which new teachers at the beginning steps have, with increasing frequency, left the district in the fourth or fifth year of employment for higher paying positions elsewhere. Consequently, the board has established a goal to increase the small increments at the early steps of the guide so that they more closely reflect the average increment for the column. This will help to boost earnings for the junior staff.
4. The board has determined that the number of columns and the average differentials are consistent with district goals. As the district counts only formal graduate work for horizontal movement on the guide, the current criteria are satisfactory. While the board would like a more rational pattern of differentials, it has concluded that this is not a pressing need. Thus, the board has determined to watch the pattern to ensure that it does not worsen, but that specific measures for improvement can be deferred to a future round of bargaining, except where the aberrations exacerbate balloons.
5. Finally, the board has set a bargaining objective to assure that the distribution of the salary increase is relatively equitable, consistent with its personnel goal to reward staff appropriately throughout the guide. Thus, the board does not intend to agree to the type of distribution pattern that has been proposed by the union in the past, where senior teachers near the top of the guide receive increases two or three times that of the settlement rate, while junior teachers receive a much smaller than average increase.

In addition to structural goals, the board will need to establish goals relating to the cost of successor guides. Before it can establish such goals, it will need to do an economic analysis of the expiring guide.

**Analyzing the Guide’s Costs**

The cost analysis provides very important information in terms of the salary base, the number of employees paid pursuant to the guide, and the cost of incremental advancement on the guide.

**Salary Base and Number of FTE** The best and most common tool to determine the dollar cost of an expiring guide is the scattergram. A scattergram is nothing more than a chart which shows the number of staff members at each step of the guide, the costs at each step, and the total cost.

When placing staff members on the scattergram, the number of FTE (full-time equivalent staff members) are indicated at each step. FTE refers to the number of full-time staff members plus part-time staff members expressed at their decimal equivalent. For example, if there are three full-time staff members and one part-time staff member on Step 3 of the BA column, and the part-time staff member works 50% of the time, then there would be 3.5 FTE at Step 3 of the BA column.

**EXAMPLE 4**

Example 4 contains “our” district’s scattergram. Referring to this scattergram, we can identify the number of FTE at each step as well as the total number of FTE on the guide. On this scattergram, there are: 3.0 FTE at BA Step 1; 3.0 FTE at BA Step 2; etc. The scattergram also indicates the total number of FTE on each column: 55.0 on the BA; 34.5 on the MA; 27.0 on the MA+30. The total number of FTE on the entire guide is 116.5. The scattergram also identifies the salary cost at each step, which is simply the number of FTE at that step times the salary rate for that step. On this scattergram, the 3.0 FTE at BA Step 1 are paid a salary rate of \$45,800; this results in \$137,400 being paid at BA Step 1 (3.0 FTE X 45,800). Note that at BA Step 8 there are no FTE; thus \$0 are paid at that step. Once the cost at each step is calculated, column totals can be computed, and finally, the aggregate total for the guide can be calculated. In this example, the cost of our expiring salary guide is \$7,549,250.

When calculating the salary base, the board needs to ascertain whether there are additional salaries being paid above and beyond the guide in the form of longevity payments, supermaximum salaries, and “off-guide” salaries. While these terms are often used interchangeably and may have different meanings in different districts, they can be generally defined in the following way. “Longevity” refers to additional payments based on years of service in the district or in the profession. “Supermaximum” refers to those salaries paid above the “maximum” rate on the guide. “Off-guide” salaries are those salaries paid to certain employees who have been permitted to “float” off of the guide or who have been grandfathered and paid some rate that does not appear on the guide.

If there are such additional salaries, they will also need to be added to the cost of the salary guide to establish the total salary base. This would provide the total cost of salaries for that year. <sup>1</sup>

**Freezing the Scattergram** Once a cost analysis has been conducted and the parties have agreed on the scattergram for the base year, it is “frozen” and kept as a constant throughout the remainder of negotiations. The frozen scattergram serves as the basis for negotiating salary increases and successor salary guides. In other words, subsequent personnel changes (new hires, retirements, leaves of absence, column changes) occurring after the date the scattergram was frozen are ignored for the purpose of negotiations and salary guide development. It is assumed that, for the life of the new agreement, there will be no change in staff on this guide. This well-established approach to negotiations helps to prevent the chaos and confusion that would undoubtedly occur if base figures were constantly changing. <sup>2</sup>

<sup>1</sup> See Part I of this series on salary guides for an in-depth discussion about the problems of balloons. Also, see the article “Breaking Balloons” later in this section of *The Negotiations Advisor*.

<sup>2</sup> For a more in-depth discussion of the frozen scattergram, please refer to Part III of this series on salary guides.

<b>SCATTERGRAM 1: COSTING OUT OUR EXPIRING GUIDE</b>				
<b>Base Year Guide</b>				
	<b>FTE</b>	<b>Step</b>	<b>Rate</b>	<b>Cost</b>
<b>BA</b>	3.0	1	45,800	137,400
	3.0	2	46,100	138,300
	3.5	3	46,400	162,400
	4.0	4	46,700	186,800
	5.0	5	47,000	235,000
	3.0	6	48,500	145,500
	2.0	7	50,000	100,000
	0.0	8	51,800	0
	1.5	9	53,800	80,700
	1.0	10	56,000	56,000
	2.0	11	58,300	116,600
	2.0	12	60,700	121,400
	2.0	13	63,200	126,400
	0.0	14	66,200	0
	3.0	15	70,200	210,600
	4.0	16	74,700	298,800
	<u>16.0</u>	17	79,700	<u>1,275,200</u>
55.0			3,391,100	
<b>MA</b>	1.0	1	47,800	47,800
	3.0	2	48,100	144,300
	4.0	3	48,400	193,600
	1.0	4	48,950	48,950
	2.0	5	50,000	100,000
	1.0	6	51,500	51,500
	2.0	7	52,000	104,000
	0.0	8	52,600	0
	1.0	9	54,700	54,700
	0.0	10	57,500	0
	3.0	11	63,300	189,900
	3.0	12	65,700	197,100
	1.0	13	68,200	68,200
	1.5	14	70,200	105,300
	2.0	15	70,800	141,600
	1.0	16	74,900	74,900
	<u>8.0</u>	17	87,700	<u>701,600</u>
34.5			2,223,450	
<b>MA+30</b>	1.0	1	50,800	50,800
	1.0	2	51,100	51,100
	0.0	3	51,400	0
	1.0	4	52,200	52,200
	2.0	5	52,500	105,000
	1.0	6	54,000	54,000
	1.0	7	55,500	55,500
	0.0	8	57,800	0
	1.0	9	59,800	59,800
	1.0	10	62,000	62,000
	2.0	11	64,300	128,600
	3.0	12	67,700	203,100
	1.0	13	70,200	70,200
	0.0	14	76,200	0
	2.0	15	80,200	160,400
	3.0	16	84,700	254,100
	<u>7.0</u>	17	89,700	<u>627,900</u>
27.0			1,934,700	
<b>Totals:</b>	116.5			7,549,250

**EXAMPLE 5**

**Calculating the Cost of Increment** Frequently (but not always), employees advance a step on the salary guide at the beginning of a new year. Obviously, advancement to higher salaries will mean a greater salary cost to the board. So the board needs to identify what this higher cost will be; that is, it needs to calculate the cost of increment.

The cost of increment refers to the increased cost of advancing employees one step on the expiring guide. A scattergram is also the tool used to calculate the cost of increment. This cost can be calculated both as a total dollar figure and as a percentage. (Note that the cost of increment calculation only takes into account the cost of movement on the expiring guide; it does not account for additional costs associated with movement to a successor guide.)

To calculate the cost of increment, a second scattergram is prepared, once again using the salary figures from our expiring guide. The only difference is that, on Scattergram 2, as illustrated in Example 5, FTE are advanced to the next step on the expiring guide. For FTE with no step to advance to (e.g., those at maximum), there is no incremental advancement. Rather, those FTE remain at the same step at which they were placed in Scattergram 1.

Referring to Example 5, we see that the 3.0 FTE who were on BA Step 1 are now placed on BA Step 2; the 3.0 FTE on BA Step 2 is now on BA Step 3; and so on down the column. The 16.0 FTE at BA maximum (Step 17) remain at maximum and do not receive an increment. The 4.0 FTE at BA Step 16 advanced to Step 17 and joined the 16.0 FTE previously at that Step for a total of 20.0 FTE at the BA maximum rate.

Once FTE have been advanced a step, the scattergram would be recalculated. The total cost of this scattergram is \$7,730,850. Comparing this to the cost of scattergram 1, which was \$7,549,250, we see an increased cost of \$181,500 or 2.35% (i.e.,  $7,730,850 - 7,549,250 = 181,500$ ;  $181,500 \div 7,549,250 = 0.0241$  or 2.41%). This represents the cost of increment. In other words, this guide contains a built-in increase of 2.35% simply based on incremental advancement.

In this case, the cost of increment on “our” expiring seems large and may present great concern to the board. However, it should be kept in mind that, depending on staff placement, this very same guide could generate a lower cost of increment that would be of less or no concern to the board. Suppose, for instance, this same guide had a different placement of FTE, such as that in Example 6 on page 18.

**SCATTERGRAM 2: COSTING OUT OUR EXPIRING GUIDE**

	FTE	Base Year Guide		Cost
		Step	Rate	
<b>BA</b>		1	45,800	0
	3.0	2	46,100	138,300
	3.0	3	46,400	139,200
	3.5	4	46,700	163,450
	4.0	5	47,000	188,000
	5.0	6	48,500	242,500
	3.0	7	50,000	150,000
	2.0	8	51,800	103,600
	0.0	9	53,800	0
	1.5	10	56,000	84,000
	1.0	11	58,300	58,300
	2.0	12	60,700	121,400
	2.0	13	63,200	126,400
	2.0	14	66,200	132,400
	0.0	15	70,200	0
	3.0	16	74,700	224,100
	<u>20.0</u>	17	79,700	<u>1,594,000</u>
55.0			3,465,650	
<b>MA</b>		1	47,800	0
	1.0	2	48,100	48,100
	3.0	3	48,400	145,200
	4.0	4	48,950	195,800
	1.0	5	50,000	50,000
	2.0	6	51,500	103,000
	1.0	7	52,000	52,000
	2.0	8	52,600	105,200
	0.0	9	54,700	0
	1.0	10	57,500	57,500
	0.0	11	63,300	0
	3.0	12	65,700	197,100
	3.0	13	68,200	204,600
	1.0	14	70,200	70,200
	1.5	15	70,800	106,200
	2.0	16	74,900	149,800
	<u>9.0</u>	17	87,700	<u>789,300</u>
34.5			2,274,000	
<b>MA+30</b>		1	50,800	0
	1.0	2	51,100	51,100
	1.0	3	51,400	51,400
	0.0	4	52,200	0
	1.0	5	52,500	52,500
	2.0	6	54,000	108,000
	1.0	7	55,500	55,500
	1.0	8	57,800	57,800
	0.0	9	59,800	0
	1.0	10	62,000	62,000
	1.0	11	64,300	64,300
	2.0	12	67,700	135,400
	3.0	13	70,200	210,600
	1.0	14	76,200	76,200
	0.0	15	80,200	0
	2.0	16	84,700	169,400
	<u>10.0</u>	17	89,700	<u>897,000</u>
27.0			1,991,200	
<b>Totals:</b>	116.5			7,730,850
<b>COST OF INCREMENT:</b>		Scattergram 2		7,730,850
		-Scattergram 1		<u>-7,549,250</u>
				181,600
Expressed as a Percentage:				
				181,600 / 7,549,250 = 2.41%

**SCATTERGRAM 1: OUR EXPIRING GUIDE WITH DIFFERENT FTE PLACEMENT**

	FTE	Base Year Guide		Cost
		Step	Rate	
BA	0.0	1	45,800	0
	4.0	2	46,100	184,400
	2.0	3	46,400	92,800
	3.5	4	46,700	163,450
	1.0	5	47,000	47,000
	3.0	6	48,500	145,500
	2.0	7	50,000	100,000
	3.0	8	51,800	155,400
	0.5	9	53,800	26,900
	0.0	10	56,000	0
	2.0	11	58,300	116,600
	4.0	12	60,700	242,800
	4.0	13	63,200	252,800
	0.0	14	66,200	0
	3.0	15	70,200	210,600
	2.0	16	74,700	149,400
	<u>21.0</u>	17	79,700	<u>1,673,700</u>
	55.0			3,561,350
MA	1.0	1	47,800	47,800
	0.0	2	48,100	0
	2.0	3	48,400	96,800
	1.0	4	48,950	48,950
	0.0	5	50,000	0
	3.0	6	51,500	154,500
	0.0	7	52,000	0
	0.0	8	52,600	0
	1.0	9	54,700	54,700
	0.0	10	57,500	0
	0.0	11	63,300	0
	1.0	12	65,700	65,700
	1.0	13	68,200	68,200
	1.5	14	70,200	105,300
	1.0	15	70,800	70,800
	2.0	16	74,900	149,800
	<u>20.0</u>	17	87,700	<u>1,754,000</u>
34.5			2,616,550	
MA+30	0.0	1	50,800	0
	1.0	2	51,100	51,100
	0.0	3	51,400	0
	1.0	4	52,200	52,200
	2.0	5	52,500	105,000
	0.0	6	54,000	0
	2.0	7	55,500	111,000
	0.0	8	57,800	0
	1.0	9	59,800	59,800
	1.0	10	62,000	62,000
	2.0	11	64,300	128,600
	0.0	12	67,700	0
	1.0	13	70,200	70,200
	0.0	14	76,200	0
	2.0	15	80,200	160,400
	0.0	16	84,700	0
	<u>14.0</u>	17	89,700	<u>1,255,800</u>
27.0			2,056,100	
<b>Totals:</b>	116.5			8,234,000

In that example, we see there are the same number of FTE (116.5), but they are placed at different steps. The cost of increment based on this placement is \$146,200 or 1.78%. Obviously, there are very different implications for a board that is negotiating with a built-in salary guide increment of 1.78% compared to that of a board negotiating with a built-in salary guide increment of 2.41%. This would be of particular concern if this two-year contract expired and the board were required to maintain the *status quo* by advancing staff a step on the guide at an increased cost of 2.41%.<sup>3</sup> If the board's bottom line for a salary increase were 2.45%, that increase would just cover the cost of increments, and no one at maximum would receive any increase at all. The problem would be even more acute if the board's bargaining parameters were seeking a settlement at less than the 2.45% increment cost. Thus, a large cost of increment can be a problem for both the board and the union.<sup>4</sup>

If a board finds that the cost of increment is too large, it will want to establish a specific objective to decrease the cost of increment on future guides. Because the cost of increment is related not only to staff placement but also to the size of the increments on the guide, the board's structural analysis of the salary guide will help identify whether individual incremental values are too large. If they are, or if there are aberrations, the board will want to target these for change in the upcoming round of bargaining. If a board determines that the cost of increment is acceptable, its goal for successor guides will merely be to ensure that the cost of increment does not grow to an unacceptable amount.

It is important to understand that a low cost of increment does not necessarily mean that the structure of the guide is satisfactory. A low cost of increment may be due to a large number of staff placed at maximum. Thus, even though the cost of increment may not currently be of concern, the guide could still have large increments or balloons that should be addressed to avoid problems in the future when staffing patterns change. This phenomenon of having large increments on the guide but a small cost of increment underscores the importance of looking at both salary guide costs as well as guide structure.

3 Under Neptune Township Board of Education, 144 N.J. 16 (1996), boards are prohibited, as a matter of school law, from paying increments to teaching staff members upon the expiration of a three-year contract. *East Hanover Board of Education*, PERC No. 99-71, 25 NJPER 30052, extends this prohibition, as a matter of labor law, to all noncertificated staff who are included in the teachers' bargaining unit. These decisions are limited to three-year contracts. Check with your resources for possible changes in this area. **In Bloomfield Board of Education, PERC No. 2011-55, where the expired agreement was less than three years' duration, PERC held that the hardship to the Board by paying the increments outweighed the harm to the union/employees. Further, PERC held that the interests of the public would be harmed if the payments were made. Cases such as this are very case and fact specific and a Board should not assume a similar result**

4 For a more in-depth discussion about the cost of increment and its implications see Part I of this salary guide series.



## The Next Step

SCATTERGRAM 1: COST OF INCREMENT WITH A DIFFERENT FTE PLACEMENT				
FTE	Base Year Guide		Cost	
	Step	Rate		
<b>BA</b>		1	45,800	0
	0.0	2	46,100	0
	4.0	3	46,400	185,600
	2.0	4	46,700	93,400
	3.5	5	47,000	164,500
	1.0	6	48,500	48,500
	3.0	7	50,000	150,000
	2.0	8	51,800	103,600
	3.0	9	53,800	161,400
	0.5	10	56,000	28,000
	0.0	11	58,300	0
	2.0	12	60,700	121,400
	4.0	13	63,200	252,800
	4.0	14	66,200	264,800
	0.0	15	70,200	0
	3.0	16	74,700	224,100
	<u>23.0</u>	17	79,700	<u>1,833,100</u>
55.0			3,631,200	
<b>MA</b>		1	47,800	0
	1.0	2	48,100	48,100
	0.0	3	48,400	0
	2.0	4	48,950	97,900
	1.0	5	50,000	50,000
	0.0	6	51,500	0
	3.0	7	52,000	156,000
	0.0	8	52,600	0
	0.0	9	54,700	0
	1.0	10	57,500	57,500
	0.0	11	63,300	0
	0.0	12	65,700	0
	1.0	13	68,200	68,200
	1.0	14	70,200	70,200
	1.5	15	70,800	106,200
	1.0	16	74,900	74,900
	<u>22.0</u>	17	87,700	<u>1,929,400</u>
34.5			2,658,400	
<b>MA+30</b>		1	50,800	0
	0.0	2	51,100	0
	1.0	3	51,400	51,400
	0.0	4	52,200	0
	1.0	5	52,500	52,500
	2.0	6	54,000	108,000
	0.0	7	55,500	0
	2.0	8	57,800	115,600
	0.0	9	59,800	0
	1.0	10	62,000	62,000
	1.0	11	64,300	64,300
	2.0	12	67,700	135,400
	0.0	13	70,200	0
	1.0	14	76,200	76,200
	0.0	15	80,200	0
	2.0	16	84,700	169,400
	<u>14.0</u>	17	89,700	<u>1,255,800</u>
27.0			2,090,600	
<b>Totals:</b>	116.5			8,380,200
<b>COST OF INCREMENT:</b>		Scattergram 2		8,380,200
		-Scattergram 1		<u>-8,234,000</u>
Expressed as a Percentage:				146,200
				146,200 / 8,234,000 = 1.78%

Based on the structural and cost analyses, the board now thoroughly understands its starting point (the expiring guide) and has determined where it would like to go in the future (its goals). All of this preliminary groundwork will put the board in a much better position to proceed to the next step, which is to analyze proposed guides. Analyzing proposed guides (whether it be the union's proposed guides or guides prepared by a member of the management (including NJSBA) team) is, in many ways, similar to analyzing the expiring guide. There is:

- **A structural analysis:** What changes to the guide structure have occurred? Has the guide structure improved, gotten worse, or remained the same? Does the new guide structure address the board's goals?
- **An economic analysis:** What do the guides cost? Is that cost in accordance with the parties' negotiated settlement amount? What will the cost of increment be in the final year of the new agreement? Is that cost acceptable?
- **An analysis of the distribution of the increase:** This analysis was not performed on our expiring guide, but must be included when analyzing proposed guides. It involves an examination of the distribution of the salary increase at every step of the guide. Is the distribution acceptable to the board? Or do some employees receive huge increases at the expense of other employees?

The answers to these questions will assist the board in planning its bargaining strategy. To help boards obtain the answers, Part III of this series on salary guides will provide an in-depth explanation of how to analyze proposed guides.